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THE

Journal of Home Economics

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THE TRAINING OF THE SCHOOL DIETITIAN[1]

CAROLINE L. HUNT

Expert in Nutrition

In entering upon a discussion of the training of the school dietitian, it is safe to begin with the statement that if terms are to be strictly defined, the school dietitian has hardly an existence today. It is safe to say, also, that so rapidly is public opinion growing in favor of expert supervision of school feeding that the time cannot be far distant when the school dietitian will have a position in the educational system as well recognized as that of the teacher. Since, therefore, the dietitian is imminent, the time has arrived when those who are looking forward to her coming may profitably form ideals for her qualifications and for the training which should be expected of her. Since, on the other hand, she is still but the creature of our hopes, these ideals will of necessity be as varied as the imaginations of those who form them. Any statement, therefore, of that which should constitute the training of the school dietitian is likely to be colored by personal opinion and can at best serve only as a subject for debate.

The statement that the dietitian has not as yet come into being should not be taken to mean that there are not today in connection with school lunch rooms many positions, that of manager for example, quite as honorable and important as the place which the dietitian will fill. There is no question here of comparative importance but rather of difference in function. In truth those who have gone before

[1] Presented at the Fourth International Congress on School Hygiene, Buffalo, 1913.

the dietitian have, by their recognition of new educational needs and by intelligent devotion to the welfare of the children, given us the very building stones out of which our ideals are being formed. Even Miss Matty, benignly presiding over her little shop in Cranford and selling almond comfits to children at a financial loss to herself "because the little things liked them so much," and substituting ginger and peppermint lozenges at an equal financial loss when persuaded that almond comfits were unwholesome, gave us an important foundation stone for our ideal—sympathy with and understanding of children. A willingness to take the preference of children into consideration, or, better still, an appreciation of the importance of so doing; of occasionally providing "almond comfits" and of coating with sugar, if need be, the "ginger and peppermint" of the diet is one of the first requisites of the successful dietitian. As Dr. Clement Dukes, Consulting Physician to Rugby, said in a recent address,[2] "The natural 'likes and dislikes' of the young in the matter of food are very powerful, and while they should not be encouraged, allowance should be wisely made for their satisfaction. They form a physical function of the age and constitution, and vary according to the stages of life—a craving at one time becoming a loathing at another."

Miss Matty, beloved prototype of the school dietitian, went bankrupt, or would have done so if her brother had not returned from India and paid her debts. She was followed by a long succession of small shopkeepers, more or less amiable and well disposed towards children, but usually either ignorant or willfully unmindful of their physical needs. Yet with all their shortcomings, those among them who achieved material success contributed another stone for the upbuilding of our ideal, for they were able to count costs and make financial ends meet. However lofty our standards for the dietitian, we must not lose sight of the fact that she will be expected to deal with material things, to buy in the markets of the new world, and to sell at a profit. She, like the small shopkeeper, must be able to strike a good bargain but the profit which she will be called upon to make will be the future health and physical well-being of the children who come under her care. Upon her business ability will depend to a large extent the quality of the food she will be able to serve, the degree

[2] Our Children's Health at Home and at School, Report of a Conference on Diet and Hygiene in Public, Secondary and Private Schools. London, May 13, 1912. Published by National Food Reform Association, Westminster, 1912.

of cleanliness she will be able to maintain and the amount of beauty in furnishings which she will be able to place before her patrons. The school caterer who is above the task of careful buying, often finds herself obliged to economize in places where saving is dangerous; for example, in the matter of the persons employed to wash dishes. Upon the foundation stone of our ideal, the one which stands for understanding of, and sympathy with, children, we therefore must place another upon which we will write "business ability."

After the small shopkeeper, came the lunch-room manager who was granted space in which to sell food within the school itself where the person selling it would be more or less directly responsible to the school authorities for the character of the food offered and for the manner of serving it. A connection once established between the person selling food and the educational system, there came a demand, often poorly defined, for a knowledge of food values on the part of the caterer, and for ability to serve balanced rations and scientifically prepared foods. This demand, when relieved of its indefiniteness, stands forth as a reasonable insistence upon the part of the more intelligent school patron that if science has anything to teach about the relation of foods to the upbuilding of the bodies of children, such knowledge must find practical application in the school lunch room. An understanding of foods, particularly in their relation to the needs of growing children, and a familiarity with the literature of nutrition are now expected of the lunch-room manager and must form a third stone in the ideal which we are building for the school dietitian.

The coming expert will be expected to have at her command a knowledge of those facts about food and those principles of nutrition that are generally recognized among scientists as established. This will always be necessary to a wise selection of food materials, good methods of cooking and of preparation in general, rational combinations of foods to form dishes or meals, and adequate precautions against impurity and uncleanliness. But in addition to this argument (which we may describe as positive) for familiarity with the literature of nutrition and ability to follow the work of investigators there is another argument equally potent though negative in form. This has a bearing not so much upon the benefits to be brought to the children directly as upon errors which, for the sake of the children, the dietitian should avoid. It relates to the danger of confusing with facts the theories which are constantly forced upon the attention of those who cater for others as the result of the enthusiasm of faddists,

of personal preferences in the matter of flavor, and of family traditions about the digestibility or wholesomeness of various foods.

The theories which the dietitian will be in danger of accepting as facts, without adequate reason for the faith which is in her, will differ with the years. Perhaps the most continuous snag which she will encounter will be her own perferences and her own family traditions about that which is wholesome or digestible. There are few people in the world who are not obliged to avoid some one or more articles of food, even when in health. The person who has no thorough knowledge of dietetics is likely to generalize upon these personal peculiarities and to exclude from the meals which she prepares for others many wholesome and desirable food materials and dishes. The objections to such a proceeding on the part of the school lunch-room manager or dietitian are many. Among others, we may mention the fact that it tends to perpetuate error, which is unfortunate from an educational point of view. Again, if children are to be educated to be agreeable table companions they must be trained to be catholic in their tastes with reference to food, and should not be encouraged to reject this or that article of diet without due cause. The school dietitian has something to do besides influencing children to avoid unwholesome foods. She is under obligation to society to do her part toward preventing them from growing finical, and toward training them to enjoy the great variety of foods which nature provides.

The pressure of faddists upon those who cater for others takes one form today and another tomorrow. At present, its influence is being exerted in the direction of making certain food materials seem exceptionally valuable because they contain elements indispensable to the proper nourishment of the body. These faddists often leave out of account the fact that if a person takes a mixed diet it is almost impossible for him to avoid these much-vaunted elements. Tomorrow the faddist will take a different turn, and only those who know what has been proved and also what has not been proved in connection with the subject of dietetics will be able to take his teaching at its true value.

The faithful, conscientious labor of those who have charge of school lunch rooms have contributed yet another qualification for our ideal dietitian, for these women have realized that they are not only feeding the children of today but training the parents of tomorrow. They have sought to teach by their daily practice correct methods of preparation, the art of preparing a bill of fare, and good taste in furniture

and table furnishings. They have acted upon the principle that since children must acquire so much by laborious, painstaking methods, it is only fair that they should be given a change to learn the essentials of good taste and good breeding by their almost unlimited power of imitation.

The lessons which the school dietitian will find most important to teach by example, like the snags in dietetics which she will need to avoid, will change as the years pass. She will always find some practical reform ripe for her coöperation and just in the state to profit by her assistance. What it will be tomorrow we cannot say, but today it is doubtless the clean food reform. There is probably no greater menance to health from a single cause at present than from the uncleanly methods by which food is handled in public places and from the stale food which is served. The public is awake, aroused, horrified; and educational demonstrations of cleanly methods of handling food on a large scale would probably accomplish one hundred times as much today as they would have accomplished ten years ago. Every school lunch room, therefore, and all places where food is kept or handled, should be, not only thoroughly, but also conspicuously clean. They should be thoroughly clean for the sake of the immediate safety of those served and they should proclaim their cleanliness in order to establish higher standards in public places.

In a certain group of lunch rooms in Boston, owned and conducted by a scientifically trained woman, the work of disposing of food which is left unused at the end of the day and of deciding what shall be rejected and what shall be saved is entrusted only to highest salaried and most thoroughly trained employees. Similar attention is given to the washing of dishes, to the preparation of fresh vegetables, and to the care of all cloths used in cleaning the tables on which food is prepared or served. If the kitchens in these restaurants could be opened to public gaze by means of glass partitions or otherwise, they would be of more value than much formal teaching of bacteriology.

To take an example of a different sort: In a certain renowned state university, a water cooler with a common drinking cup attached, stood in the registrar's office just outside of the president's room for months after the bacteriological department of the university had been engaged in preaching publicly against such practices. Who can tell how much the campaign against the common drinking cup was retarded by the failure of this university to live up to its own teaching? Universities, however, influence directly a very small number of people in compari-

son with elementary schools. The trained food expert in the lower schools has therefore a weapon against filthy practices in the handling of foods whose possible effectiveness almost passes the bounds of imagination. Lunch room managers have fortunately often recognized and embraced their opportunities to teach and have by this means raised the standard for the training of their successors.

Up to this point we have spoken only of qualifications which school managers and dietitians should have in common, but in large school districts a separation is sure to come in time between these two trained officials. Then the manager will assume charge of the details of everyday administration, leaving the dietitian to make the lunch room a laboratory for the investigations of problems bearing on the general subject of the feeding of children.

The opportunities for research offered wherever food is served in large amounts under intelligent supervision have been recognized and demonstrated by the United States Department of Agriculture, and also by private organizations, physicians and health officers. The investigations of the Department of Agriculture have been mainly dietary studies[3] conducted for the purpose of determining the amount of food actually provided in well conducted institutions where the children appeared to be well-fed and in good bodily condition. These investigations have resulted in the establishment of certain dietary standards for children which are to be found recorded in the publications of the Department.[4] The Department by coöperating with individuals and institutions has not only shown the invaluable opportunities for research offered by institutional dining rooms but has also given training in methods of investigations.

The studies made by private organizations, physicians and school health officers have, up to this time, been chiefly in connection with conspicuous cases of malnutrition. Their purpose has been to determine the relation of malnutrition to underfeeding, bad housing, and other untoward conditions of living. These two lines of work, studies of normal and abnormal children, suggest that in connection with the school system there should be an expert who is not only in touch with investigators but is also trained to take for herself advantage of the enlarging opportunities for investigation offered by the growing custom of serving meals in the schools. We look, therefore, for the coming of

[3] U. S. Dept. Agr., Off. Expt. Stas., Bul. 223.
[4] U. S. Dept. Agr., Off. Expt. Stas., Circ. 110.

the school dietitian who, relieved of the details of administration, will have only the final decision as to what food shall be served and will by her own studies contribute to our knowledge of food in its relation to growth and development.

Understanding of child nature and some familiarity with the principles of pedagogy; business ability; knowledge of the literature of nutrition; and acquaintance with methods of investigation and research—these are the qualifications which we may reasonably expect of the school dietitian. Since it is obviously out of the question to outline here courses of training and study, we must be content to let the qualifications suggest the character of the preparation. The recognized need of thorough courses in chemistry, physics and the biological sciences as foundation for a working knowledge of dietetics and sanitation puts out of the question the possibility of any short cut to the profession. The widening opportunities for adding to knowledge which if neglected will entail serious loss to the public, tend to lengthen the path and to extend it into the graduate school. On the other hand, the need for close contact with children and the demand for business experience suggest pleasant side-trips into apprenticeship. The larger universities offer the long, broad path of scientific preparation and also, the enticing by-paths where practical experience is to be gained through their normal departments and lunch rooms.

Formal courses of training, no matter what their length or their breadth, can never create those kindly impulses in which the successful work of the school dietitian must have its origin. The best they can do is to make recognition of the value to the coming generation of the desire to substitute peppermint lozenges for almond comfits and to direct it toward a scientific system of school feeding.

THE ADMINISTRATION OF SCHOOL LUNCHES IN CITIES[1]

ALICE BOUGHTON

Ten years ago school lunches were being served in two elementary schools in Philadelphia. Today they are being served in more than a hundred cities from Pennsylvania to California and from the Great

[1] Presented at the Fourth International Congress on School Hygiene, Buffalo, 1913.

Lakes to the Gulf. The lunch movement has passed the experimental stage and become a recognized part of the modern school system.

It is the purpose of this paper to deal with some of the questions, in the order of their relative importance, which must be considered by any community about to organize school lunches. These problems are such as must be taken into account regardless of the extent of service to be organized.

The relative merits of the central kitchen and the individual school kitchen is one of the first problems to be considered. In the central kitchen it is possible to have a trained person in charge of the actual work, so that a more uniform standard can be maintained. This is especially true where women's clubs or other volunteer agencies are responsible for supervision. Competent, responsible assistants are essential.

For the central kitchen, food can be bought and stored in large quantities. This means economy, but our experience in serving school lunches is not yet sufficient to warrant the statement that the central kitchen plan results in actual money saving. The cost of food distribution is considerable, but there seems to be little doubt that a better standard of cooking and of serving as well as a greater variety of foods may be obtained for the same money if the food is prepared in a central kitchen, or, in a large city, in a chain of kitchens each of which serves one or more school districts. So far the possibilities of combining the work in the high and elementary schools have not been given a trial. There would seem to be no real difficulties, other than those of administration, in taking advantage of the high school plants for the preparation of food for the elementary schools. In most high schools it is possible to have steam cooking utensils, dish washing machines, potato peelers and other labor-saving devices which, because of expense, cannot be installed in the small elementary school kitchen. This coöperation between high and elementary schools would permit of greater variety and lower food and service cost for both.

On the other hand, with such a system as that in Philadelphia, where the cooking is done in each school, the children come into close contact with the working assistants, observe the preparation of food, and unconsciously acquire high standards. Many of them show great interest in what goes on in the kitchen, ask questions, and learn the names and uses of the various utensils. It is probable, however, that the advantages of the individual kitchen could be incorporated with the central plant.

No matter what system of preparing food is adopted, too much stress cannot be laid on the necessity for a good cost accounting system. Whether the lunches pay the cost of maintenance in full or in part, those in charge should know exactly the expense of running the plant in terms of rent, heat, light, deterioration, renewal of equipment, distribution, preparation, service and supervision, as well as the cost of the food. They should also know whether the gain through buying food in large quantities is sufficient to cover the running expenses of the plant, and whether, if the selling price covers service cost as well as food cost, the child gets as much for his penny as he does when he buys at the corner grocery. The collection of this information does not pledge us to the adoption of any given system of administration. It does, however, give us a scientific basis for the measurement of results and a means for accurately comparing the work of one city with that of another.

A system of records carefully worked out to meet special needs is indispensable. This should include weekly menu cards for the saleswomen at each school, with spaces for daily receipts and weekly totals; a record for each school showing total receipts and expenditures for the month with sufficient space for an itemized expenditure account. A time sheet is needed for registering the working time of employees. This time sheet furnishes a basis of comparison between the various schools where employees are paid by the hour, and shows the gain in time through convenient kitchen arrangement and equipment. There should be petty cash sheets so that the saleswoman will have no difficulty in keeping an account of her emergency fund. There should be order sheets of uniform size which fit into the director's note-book, and loose sheets of the same size for miscellaneous memoranda. Care and thought in these details insure efficiency with a minimum of effort.

In any city having more than two or three schools, there should be a central office where the assistants can get into daily touch with the director, bring their record cards each week for criticism, and confer with her regarding the difficulties they encounter in their work. Once a month it is well to have a general meeting of the whole force. This will help to keep all interested and develop a spirit of team work. Very often the director gets valuable suggestions from her assistants, who through daily contact with the children acquire first hand knowledge of their needs and tastes.

The efficient administration of funds available for school lunches depends largely upon the intelligence exercised in the purchase of

raw materials. The director must be governed in her selection of food stuffs, not by guess work but by scientific measurement. Each food sample should be tested for the percentage of protein, fat, and carbohydrate, and for its caloric value. The school director should make her purchases on the basis of food values, although this does not mean that she must make the chemical analysis herself. In every city arrangements can be made to have foods tested in the university or municipal laboratories; and the school lunch director will generally find the municipal authorities glad to coöperate.

Another important problem is the equipment of kitchen and lunch rooms. The school children are not obliged to buy the lunch prepared for them. They will not buy it unless they can get as much for their money in just as attractive a form as the street vendor offers them. In selling cheap food, careful attention must be given to service, and, no matter how simple, the equipment should be pleasing in appearance. When possible the serving dishes should be white. They appeal to the children as being clean and attractive, and what is no less important, the director can tell at a glance whether or not they have been carefully washed. In Philadelphia white enamel has proved most satisfactory.

The lunch hour may become one of the social features of the school if due attention is given to making the lunch room attractive. This is especially true in high schools. In elementary schools the lunch-room should be of easy access to play-ground or play-room so that as soon as the children have finished their meal or while they are waiting for their turn to be served, they may be playing out-doors.

If the director or her assistants have had normal training in domestic science, they may give lessons in the physiology of digestion, using the school lunch as a working basis. The whole system of lunch room expenditures should be the common property of the children. They should understand just what their money goes for; what proportion for rent, what proportion for service, and what proportion for food.

In the past, correlation between school room and lunch room has not been close, yet it seems evident that the school lunch offers a laboratory where valuable instruction to school children can and should be given. Such correlation, however, is not practical unless the director of the department possesses certain important qualifications. In order to fully develop the educational possibilities of the school lunch, she must be not only a business manager, an accountant, a skilled housekeeper and a trained dietitian, but also an intelligent and well equipped teacher.

A question which will undoubtedly arise in the future in connection with the school lunch as it has already arisen in connection with medical inspection, is whether its administration should be under the direction of the educational or the health authorities. Most of us who are engaged in this work feel strongly that the responsibility must rest upon the public school system. The health authorities, through the Department of Medical Inspection, deal primarily with the child who is ill and pay little attention to the healthy child. The School Lunch Department places emphasis, not upon the sick, but upon the well; its primary aim is to serve, not the abnormal, but the normal child. The School Lunch Department might very properly coöperate with the Department of Medical Inspection in the preparing and serving of special diets to the under-nourished, or, on the requisition of the Department of Charities, in serving food free of charge to children of indigent parents. In other words, the school lunch might serve as a food clinic to children suffering from malnutrition. Coöperation between school and health authorities should be close and constant, but for purposes of effective administration it seems evident that the provision of food for normal children to be served in the school buildings should be under the direction of the school authorities.

The control of the School Lunch System should be in the hands of a central committee composed of representatives from the Department of Superintendents, Departments of Health, Recreation, and Domestic Economy, and of other interested persons or associations. If public funds are spent, the members of this central committee would properly be appointed by the board of education. This committee should meet several times during the year to settle questions which arise, but there should be a smaller executive committee meeting monthly to work with the director and aid her in keeping the system running smoothly. Whether or not the director of a luncheon is a paid employee of the board of education or of an outside organization, she should have full authority over the details of the work for which she is responsible, subject, of course, to the approval of the executive committee. She should be responsible, in part at least, for the purchasing of food, and wholly responsible for preparing and serving it. She should make all menus and know the food values of whatever articles are sold. She should be consulted in the buying of all equipment.

School feeding is a big business. In Philadelphia alone 170,000 children in the elementary schools are spending approximately $200,000 on their lunches each school year. As only about 6000 of these ele-

mentary school children are cared for by the School Lunch Department, this money goes largely to the street vendor. During the past year 10,000 children in the high schools spent $92,000. Their money was spent for clean, nutritious, and palatable food, prepared and served in a sanitary manner in a clean and attractive room under expert supervision, while the overwhelming proportion of elementary children for whom as yet no school lunches have been provided, spent their pennies on the street, getting in return for their money dirty, adulterated food. The child is in the schools. He wants food, and has the money with which to buy it. The practical question for us to settle is how he shall get his money's worth.

HOUSEHOLD SCIENCE IN SECONDARY SCHOOLS

FLORENCE AND MERIEL WILLARD

Washington Irving High School, New York City

The old idea of manual training and sewing, the making of a few perfect models, each small and useless, except as a means of acquiring manual skill, has disappeared. The aim now is not only to train the hands, but to arouse and develop the girl. The educational catch words are "Preparation for life," "Vocational training," "Habit formation," "Efficiency." Home making has become a profession and girls must be prepared for it. Trades demand skilled workers and they must be trained in the schools. Household science, therefore, is no longer a subject that can be given casually, with little time allowance, no equipment and an indifferent teacher. It has become one of the centers around which are grouped other subjects. Literature, art, history, science—all help to enrich and strengthen this important part of a girl's training. The development and needs of the modern home; the great industrial problems; the relationship of capital and labor; sweatshop work, child labor, are all questions which should be of vital interest to the future wage earner and home maker. As a consumer every girl must learn "how and what to buy." Women are the family spenders these days and girls should know the worth of the many articles that go to make the furnishings of a home and the clothing of a family.

Household science in secondary education has taken great strides in the last ten years. It is now quite the exception in large cities not to find it included in the high school curriculum. A large majority of

the high schools in the smaller towns also offer some kind of work along the lines of home training. In many of the courses of study it is a required subject, especially in the trade and technical high schools. In these schools it generally runs through the entire course, five periods each week for four years. The physical, chemical and biological sciences in these schools are adapted to the home subjects and work in close correlation. For the teacher of household science to teach all of these subjects means that some of the practical sides of the work are neglected. The applied courses in the chemical and physical laboratories have been found to be much more satisfactory if taught by the regular teacher of these subjects.

The physics and chemistry as now taught in many of the high schools are not so valuable to girls as they are to boys who are preparing for technical work. We all know that these subjects are especially adapted to form habits of logical thinking, reasoning and concentration. The problem now before us is to make such work equally valuable for girls and boys, and to plan out courses in these sciences that will include all the underlying principles, and at the same time show their application in the processes of housekeeping.

Science in the chemical laboratory can be used to show how foods are adulterated, or what fabrics are weak and what are strong, with as much educational value as in determining the percentage of each element in a given compound of remote interest to the student.

The applied physiology as taught in connection with household science is the foundation of hygiene; this is better understood when it is preceded by some work in biology, where the cell life is illustrated by plants. The main part of the work in physiology is the study of the intake and the output of the body and the nature of the digestive changes.

Very closely related to the subject of Home Economics is the subject of bacteriology, which includes the study of bacteria, yeast and mold. This can be taught in direct connection with the practical work in cooking, no laboratory being needed. A microscope to show the actual appearance of bacteria, and a few Petri dishes and test tubes furnish the necessary apparatus. The nutrient gelatine can be made in the kitchens or furnished by the Board of Health. Culture plates exposed to the air before and after class, or before and after sweeping show the distribution of bacteria and molds more vividly than any amount of talking. Tests as to the keeping of milk, with and without pasteurization; the effect of drying food; and the effect of decaying fruits are

instructive and interesting. The function of yeast in bread making and the results of mold on cheese are easily explained by simple experiments.

In some of the academic high schools, the tendency of the last few years is to omit a second language and substitute courses in household science. This seems a wise plan for it gives the work a regular place in the course of study. It has proved to be of more benefit to pupils than three years of a foreign language. In the majority of high schools however, only one year is given to the subject. It is as yet an unsettled question as to where that year shall come. Among the pupils who enter high school only 75 per cent remain until the second year, 50 per cent remain until the third year, and 25 per cent remain until the fourth year and graduate. To benefit the greatest number of pupils then, household science should be put in the first year. It is not the best psychological time, however, for the girls. They often have had just enough in elementary schools to make it appear an old story. In the third and fourth years we find them more deeply interested in the work. It is sometimes the case that they are already contemplating homes of their own or that the family burden of ways and means has fallen upon them all too early.

The topics covered by most of the courses under the heading of Household Science are: foods and nutrition, sanitation, preparation and serving of foods, care of infants, the home care of the sick, the furnishing and care of the home, sewing, and dressmaking.

At present, because of the better understanding of the science of foods and nutrition in the colleges and training schools, teachers are better prepared to teach these subjects. The practical side of the work, that is, the actual cooking has always been emphasized and should always be an important side of the work. The study of the needs of the body and the way in which the different foods best meet these needs, however, is one of the most interesting ones to the pupil in the secondary schools. She may, up to this time have been interested only in the taste and appearance of food. The study of the caloric expenditure of the body and the weighing and proportioning of the food equal to the expenditure opens up a new field. The cost of the food for each dish planned and cooked is computed and the comparison made as to its energy value. This sets forth problem after problem to be solved by the young housekeeper. Most of the cooking is in the form of preparing meals which are correct dietetically and adapted to the class of girls taught. These meals are then properly served.

In schools where there are housekeeping rooms or a model apartment, the pupils have a chance to grasp household problems on a much wider scale. Correlating with the art classes the rooms are furnished in a harmonious and simple manner. There are many combinations of furnishings and experiments of different effects made and criticized by the classes. The entire care of these rooms is taken by the pupils, different groups working each period of the day. One period the house is cleaned, the floors polished and absolute neatness and order brought about. The next period a meal is prepared. One girl sets the table, another goes to market, and so on. In the six or seven rooms, groups of four or five are working, each taking the responsibility of a particular task. Theories are put into practice that have been talked over in the laboratories and kitchens.

The technical work in sewing is, of course, given by the teacher who is especially trained for this work. As with domestic science, in many schools sewing is required or it may be elected in place of a second language. The equipment should be simple but convenient. Sewing machines, one for every four or five girls, up-to-date and in order, are a necessity. As a rule the greater part of all material should be furnished by the pupils themselves. The finished products then belong to the makers and as such have an added value and are worked upon with independence and pride.

The course of study varies in different localities and in different schools but the ideal is the same—to teach processes and principles, to train girls to think, not merely to make particular articles. Each garment, for example, is a problem to be solved by every pupil. Real skill is to be sought for also, not only because it is valuable in itself, but because true appreciation of technical excellence can only be gained through active production. Speed should be cultivated, because time is precious and wasteful motions should be avoided in all habit formation. During the first term the pupils cut and make several undergarments and perhaps a cooking cap and apron. On these garments they review or learn the several stitches that are used by all hand sewers. The sewing machine is then introduced.

The cutting and construction of garments are always interesting processes and a knowledge of correct lines and easy ways of fitting should be gained by all pupils. Cotton cloth, its manufacture and use, its cost and value to the consumer should be investigated. Stores and factories should be visited if possible. The bargain counter and a comparison of home and factory made garments are profitable

discussions. Analysis of the new fabric is of interest. The good old fashioned tests for wool are tried, collections are made showing values and prices, color tests are experimented with. Why is wool warm? What effect has its adulteration? What constitutes hygienic clothing for growing girls? The effect of weight and pressure upon health. These are some of the natural questions and suggestions that grow out of work with dress materials.

After a simple dress has been made pupils are ready for drafting and then for the use of paper patterns. Time should also be given to household linen, millinery, baby clothes, and finally the girl's own graduation dress. This dress should be designed and planned from the economic standpoint to secure a really fine garment for a limited amount of money.

The care of infants is fast becoming one of the most important parts of the work in household science. More and more is the care of the baby at home left with the big sister, and an intelligent knowledge of how to wash, feed and amuse the child is almost a necessity. These girls too, have often to assist in caring for a sick member of the family so that a knowledge of "first aid" is useful. All of these topics tend to develop a womanly instinct and awake a keener interest in one's fellow beings. Aside from the knowledge given about the home and society, the aim of the course in household science is to form habits of order, neatness, accuracy, promptness, speed, patience and reasoning. If we can do this the outlook on life of the high school girl will be broadened by her course in household science.

PURE TEXTILES

L. H. Dewey

United States Department of Agriculture

The practice of substitution, adulteration and fraud is by no means confined to food and drugs. The use of cheaper substitutes for standard materials has been practiced from the earliest times of manufactured articles, but it seems to have increased during the past fifty years, and with the increasing adulteration there has grown up an agitation for protection against it.

In the present age it has become the custom to turn to the law, somewhat blindly perhaps, but with a vague notion that the law alone

will suppress the evil. At least eight different bills, designed to secure pure textiles, were introduced in the two houses of Congress within a year and others had been introduced at previous sessions. Fortunately none of these bills have been enacted into law, for none of them appear to be quite practical and their passage would merely complicate matters without fully serving the purpose for which they were drawn. It seems very probable, however, that a more comprehensive and more carefully prepared measure may be presented soon. A special committee has been at work upon this matter for some time and have collected information that should enable them to draw up a measure designed to correct the evils without causing undue hardships to honest manufacturers or dealers. Most of the measures presented heretofore have been opposed by manufacturers, but statements in the textile trade papers indicate that their attitude is now changing in favor of just and reasonable regulation.

In the days when our grandfathers sheared their sheep, and our grandmothers carded and spun the wool and dyed the yarn with which they knitted their children's stockings and mittens there was no question but that these articles were all genuine new wool. Those little red and white striped mittens seemed never to wear out, and those woolen socks that used to feel so comfortable inside of the copper-toed boots withstood many kicks before they had to be darned. But the copper-toed boots and the hand-knit stockings and the homespun yarn have all disappeared. They have been replaced by the mill-spun yarns, machine-knit socks and factory-made shoes. Our good mothers and grandmothers knew personally those for whom they were spinning and knitting and the possibility of cheapening the article never entered their minds. But the spinner of yarns in the mill knows only that he will get his wages on Saturday night; the knitter operating a machine is interested only in turning out so many dozen pairs each day, for she knows not who spun the yarn or who may wear the socks. The personality of the consumer as an incentive to honesty is entirely removed. The goods, whether knit or woven, pass through the hands of the selling house, wholesaler, jobber and retailer before reaching the consumer. The manufacturer may therefore be very much in the position of the honest farmer who packs some dirty wool inside of a nice clean fleece and tries to console his conscience with the thought that the manufacturer who uses the wool can never know who packed it. Furthermore there is divided responsibility in the

work of manufacture. One company spins warp yarns; another company spins the weft or filling; another company weaves these yarns into cloth and still another company finishes the goods and prepares them for market.

In addition to this divided responsibility there is often ignorance on the part of each manufacturer or dealer regarding all processes in the production of the article except the few that he himself attends to. The manufacturer rarely has any definite knowledge regarding the production of the raw wool, silk, cotton or other fibers that he uses. A cotton manufacturer from the North would need an introduction to a plant of American upland, upland long staple, or Sea Island cotton, and the woolen manufacturer inspecting the sheep at the county fair will be found looking curiously at the labels to distinguish between Cotswolds, Southdowns and Ramboulet merinos. The weaver knows little about the spinning or the finishing; the seller has only a superficial knowledge of any of the processes of manufacture, and the retail clerk in the department store knows only the goods as they are placed on the counter to be sold. With a new series of novelties coming out each season, so that one is scarcely familiar with marquisettes and chamoisettes before he must learn about ratines, tango cloth and polyreflets, it is almost too much to expect the retail clerk to have an intimate knowledge of the different kinds of materials entering into all these novelties or even into staple goods like serges, poplins and ginghams.

If it is difficult for those actually engaged in the production and sale of the goods to know about their composition, how much more difficult is it for the purchaser or consumer to learn about it? But how many consumers give even a thought to the composition, providing the color and finish are satisfactory? One occasionally sees an inquisitive customer pick up a piece of pongee silk and smell of it or press a wet finger against an alleged linen handkerchief, but usually there is little opportunity to test goods at the retail counter. If a purchaser occasionally asks about the composition of goods, the retail clerk and even the head of the department usually answer with pitying looks as if such questions could be asked only by persons mentally unbalanced.

The purchasing public considers the appearance and price only and for two generations at least has paid no attention to composition. The careless purchaser, making no effort to learn about the quality

of materials may be quite as much to blame for misnamed or adulterated goods as the manufacturer who makes them. In fact, sometimes more so, for the manufacturer usually makes goods on orders and the wholesaler placing the order is not deceived. The deception usually occurs somewhere between the wholesale house and the final purchaser.

The bills introduced in the Senate and House of Representatives, thus far, provide for the labeling, marking and tagging of all textile fabrics, especially clothing, with penalties for misbranding. Some of the bills include leather and rubber goods in addition to textile fabrics. One bill, shorter yet more comprehensive than the others, includes all manufactured articles. It is entitled "A bill prohibiting fraud upon the public by requiring manufacturers to certify to the materials of which a manufactured product is composed, and to place their name upon manufactured articles or containers."

A bill introduced December 8, 1913, by Representative Lindquist, of Michigan, himself a woolen manufacturer, follows in general the lines of most of the bills preceding and it may be taken as a type of the best of them. This bill makes it unlawful for any person to misrepresent or misbrand any article of clothing and other articles such as carpets, leather goods, etc. It further prohibits interstate commerce or importation of misbranded articles; provides for the fumigation or disinfection of articles, for the collection of specimens for examination, for the examination of specimens in the Bureau of Chemistry of the Department of Agriculture, for the prosecution of offenders by district attorneys; defines the terms wool, silk, cotton, etc.; provides that articles for interstate commerce must be labeled, and how they shall be labeled; and provides further that no dealer shall be prosecuted under the act if he can show a guarantee from manufacturer or dealer that the article in question is not misbranded.

One criticism that may be made to nearly all the bills is the attempt to designate every class of article separately by name, when it is obviously impossible to list all that are now known, while new types and classes are appearing every year.

A serious difficulty in enforcing the provisions of the bills proposed may be found in identifying certain fibers. While it is comparatively easy to distinguish, by means of the microscope or in some instances by chemical analysis, between wool, cotton, silk, linen, ramie and jute, it is well-nigh impossible to distinguish with certainty in all

instances between fleece wool, shoddy and mungo, or between flax and hemp fibers. The presence of shoddy may usually be detected by microscopic examination for some of the fibers are nearly always dyed differently from others or differently from the fresh wool, but since they are all wool it is practically impossible to positively identify each individual fiber so as to determine accurately the percentage of shoddy present. Hemp fiber costing the manufacturer 8 to 10 cents per pound may be substituted for flax costing 20 cents, in coarse yarns or carpet warp, and it would be practically impossible to detect the difference.

The most frequent cases of substitution and adulteration at the present time are the following: Shoddy, mungo and cosmos fibers used in woolen goods; cotton and sometimes jute fiber instead of flax in linen goods; artificial silk in place of genuine silk; jute in place of ramie; jute in place of hemp.

There are more than a dozen different grades of shoddies, mungos, cosmos, and extracts regularly quoted in American markets and used to make yarns for the manufacture of woolen goods. In Europe shoddy is used much more than it is in this country. Imported cloth is much more likely to contain shoddy than domestic goods at corresponding prices. Some of the higher grades of shoddy are as good or possibly better than low grades of fleece wools. The best all-wool white shoddy yarns are regularly quoted at prices about equal to the quotations for light gray mixed yarns of fleece wools. The presence of the adulterations in woolen goods can not usually be determined without microscopic examination.

The substitution of cottons for flax is facilitated somewhat by the careless use of the term linen to include cotton substitutes with genuine linen. Our grandmothers had real table linen and real bed linen, but now the term table linen often means cotton table cloths and napkins, and one almost has to go to Mexico or Europe to find linen sheets. The purchaser usually knows when she is buying cotton sheets or table cloths but may not be so certain in other lines. Cotton is now spun in uneven yarns to resemble flax yarns, and the woven goods are finished with alum and magnesia in the sizing and even perfumed to resemble the odor of retted flax, so that it requires very careful examination to distinguish the cotton imitation from genuine linen before it is washed. It may be identified very easily by the microscope, but until microscopes are furnished to customers in the

linen goods departments most of us will have to accept the salesman's word for it.

During the past five or six years increasing quantities of artificial silks have been sold in our markets. This is a comparatively new form of fraud and in most instances the retail dealer has been as ignorant as the customer.

Artificial silk is made from cotton or pine wood pulp completely dissolved forming a slightly viscid fluid which is pressed through fine holes. The strands coming from these holes, after being solidified and purified, have an appearance very similar to genuine silk, but they are solid instead of hollow, about one-eighth as strong as real silk and very much weaker when wet. There are several different kinds made by different processes, but none of them are as strong or as durable as genuine silk and none will endure heat and moisture as well as real silk. Most of them would be ruined by moistening them and attempting to press them with a hot iron. Artificial silk is used largely in trimmings, but it is also used in other lines of goods. Probably no dealer will guarantee, as genuine silk, any of the so-called silk petticoats selling at less than three dollars. Some of these are probably silk finished cotton, which is more durable than artificial silk.

Ramie is comparatively new as a material for dress goods, in this country, and, being new and unfamiliar, offers exceptional opportunities for misrepresentation and fraud. Fine bleached and combed ramie tops, the best grade of ramie fiber, cost the spinner 50 to 70 cents per pound. It is the most beautiful and most expensive vegetable fiber on the market. But dress goods are often made of the noils or short ramie fibers costing 12 to 15 cents per pound. The use of 15-cent noils instead of 50-cent tops is still ramie and within the law as the bills are drawn, but the substitution of 4-cent jute is beyond endurance. About three years ago a ladies' tailor made some gowns, at $40 and upward, of goods that he called "Punjab ramie linen." Neither ramie nor flax are produced in the Punjab, but jute is, though not as much as in other parts of India. This Punjab ramie linen was imported by another firm and the tailor may be given the benefit of the doubt as to whether he knew what it was, although he should have recognized its resemblance to cheap grades of buckram used for stiffening. This "Punjab ramie linen" was found to be only jute burlap, and for the sake of the pride of the fashionable

wearers we shall hope that no one told them they were dressed in potato sacking.

Jute is commonly sold as hemp in so-called hemp carpets, hemp carpet warp and in the webbing supporting the seats of upholstered furniture. If genuine hemp were used, these articles would endure hard wear many years, but the life of jute is very short, even without wear, for it rots upon exposure to the air.

A just and comprehensive law, properly enforced, will aid in doing away with some of the shams, frauds and misrepresentations, but it will not be fully effective until the purchasing public is educated to expect and demand honesty all along the line. Ask the retail dealer to guarantee the kind of material; not the quality only for that is indefinite, but the kind of material. Some articles are now guaranteed from manufacturers through all the dealers and retailers to the ultimate consumer. Many more might be so guaranteed if there were a demand for it.

It has been well said that "it is difficult to legislate honesty into a community," and it will be practically impossible if we continue to fulfil P. T. Barnum's statement that "The American people like to be humbugged." But every one of us may help to develop honesty by using reasonable efforts to avoid being cheated, and at the same time believe and act on the belief, that most people, whether manufacturers or retail dealers, are fully as honest as we are.

THE RELATION OF HOUSE PLANNING TO HOME ECONOMICS[1]

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In looking over the curricula of various schools in Home Economics, one finds here and there an attempt to introduce house planning into the schedule. To one not accustomed to think in terms of planning, the relation between this subject and Home Economics may not at first be clear. It may be necessary to explain why an understanding of good house planning is fundamental in Home Economics training.

Conceived from one point of view, Home Economics aims to so organize the profession of home making that women shall have leisure for family enjoyment, for personal growth and for community affairs. This means that the business of house keeping must be placed on an intelligent and labor saving basis. To this end a woman must know her work; she must know what she is to do, and how she is to do it; and she must see to it that the laboratory in which she operates is so designed as to fit itself to her scheme of work. It is of small use to organize the work unless first of all we organize the work place. In other words, for organized housekeeping an organized house plan is needed.

Constructively stated, the time has come when we must realize that forceful and direct arrangements of floor plan, do of themselves create conditions favorable to simple house work and to effective decoration, while crowded, rambling, indirect or even unstudied arrangements, create forms of waste that no amount of added equipment can cancel. While the use of household equipment should not be undervalued it cannot yield full results until the first great economy, that of the plan, is established. Nor can household decoration be seriously and fundamentally taught except from the standpoint of planning and the structural division of space. We need a readjusted vision of the house, both as concerns its plan and its fittings. As long as we attempt to fit economic house keeping into uneconomic arrangements, there will be lost motion. To accept dwellings of the day as fixed conditions, is to limit the full demonstration of Home Economics.

[1] Presented at the Sixth Annual meeting of the American Home Economics Association, Ithaca, 1913.

The development of the house plan has a direct bearing on the servant problem and the high cost of living. By intensive planning of the working areas, humane and economic conditions are assured to the worker; service is reduced to a minimum and many times the homemaker becomes independent of outside help. If outside help is needed, however, such conditions appeal to the most intelligent type of worker, and in the long run, add greatly to the peace and permanence of the home management. The compact forms of modern English and German as well as of American houses reflect very clearly the increasing difficulties with domestic help.

The increased cost of building and of upkeep also react directly on the house plan. Because of our higher standards of living as well as the greater cost of labor and of building materials, a square foot of house room now costs twice or three times as much as it did a generation ago. Such a realization puts a new demand on every foot of enclosed space. Economic planning demands that every square foot of floor area shall do a square foot's worth of work, or shall add a square foot's worth of effectiveness to the interior. We must not spend space for idle areas. Every foot of the plan must work either for economy or for beauty.

The basic relation between the house plan and household decoration cannot be passed by without more comment. If we believe that our surroundings affect us and that the aim of household decoration is to create a virile environment, we must realize at the outset that no surface application either of color or design nor any addition of movable furnishings will score so heavily in favor of total effectiveness as will a well-designed structural setting and the simple effect of studied light and shade.

For the reasons then, that the floor plan bears directly on the house work, on the servant problem and on the high cost of living, and for the reason that it forms the logical basis for the development of environmental art, house planning should be understood by Home Economic teachers. Through the study of planning, intelligent standards of housing may be formed and future building may be guided in an economic direction.

Practice in planning is also of general cultural value, for a sense of planning is broader than its mere application to building. Good planning requires careful analysis and promotes simple and direct reasoning. Such training should enable one to distinguish essentials from non-essentials in any problem and to organize the whole into a

definite program. Planning should enable one to plan work, strength and time as well as space.

It is not advisable, however, for people to dabble in architecture, or aspire to plan their own houses unaided, or to learn a little planning as an end in itself. Such work is necessarily brief, and is by no means exhaustive; it is intended to develop an appreciation of forceful arrangement, merely as a means toward an end. A study of hygiene and of sanitation does not equip one to practice medicine, but it does teach one to some extent how to prevent disease. Similarly the study of house planning as above described helps to prevent uneconomic structural situations. Such a course therefore stands not by itself, but as basic work which may be relied upon to strengthen other subjects.

In order that the study of house planning shall be valuable to Home Economics teachers and students, it is vital that the person teaching the work shall have not only training, but also originality. To study and imitate types of floor plans with which we are already familiar is merely marking time. We arrive nowhere unless behind this study there is a purpose and a point of view; that is to say, if familiar arrangements are used they should be analyzed for the purpose of locating waste space, of understanding directness of plan, of learning the value of vistas, and the "ear marks" of strong or weak design; and these points should be brought out as the various plans are discussed.

All women should understand what elements govern economy of plan and how those elements may be combined to secure comfort and beauty. A study of house planning teaches one where spaciousness or compactness is desirable; thus every foot of enclosed space may serve a definite purpose. In general, economy of plan is expressed in compactness of floor area, in grouped chimney arrangements, in simplified hall and stair treatment and condensed kitchen arrangements. Spaciousness is in general obtained by treating the living area as a unit with continuous lines of composition connecting such subdivision as living room, dining room, library, etc. Windows and doors are placed with relation to these axes, and long vistas indoors and out are established. In other words an understanding of spaciousness depends upon a knowledge of the laws of composition and design.

The house plan must therefore be in a sense architectural if we are to secure the best results; for "architectural arrangement" is merely a professional description of planning space in an orderly and systematic manner. Convenience is the by-product of the best design, and a simple architectural plan brings in its wake economic working condi-

tions. In working over hundreds of homemade plans not one has been found from which, by applying the principles of design, it would not be possible to either develop a more spacious and economic arrangement within the given area or to develop the given requirements within appreciably less area. Such an experience carries its own conviction as to the worth of high-calibre planning.

The three hour course in house planning given in the Department of Home Economics at Cornell is placed in the first term of the Junior year. It consists of two lecture periods of fifty minutes each and one laboratory period of two and one half hours. The lecture work presents to the students such discussions as: the relation of the house plan to home making, to the servant problem, and to the cost of living; economic versus cheap standards of building; developing house and grounds as a unit; the aesthetic obligation of the property owner to the community; exterior color schemes; and such phases of heating, plumbing, lighting and general construction as affect one's standards of sound housing. It is the special aim of this course to take a progressive view of housing, by discussing the use of new building materials, simpler plumbing methods, new floorings and the effect such changes would have on the design, the upkeep and the total economy of property. The bulk of the work is, however, a discussion of planning. A collection of lantern slides is used to illustrate plans and exteriors both good and poor. Every plan is analyzed on the score of size, shape, arrangement, design, economy and originality of treatment. Exterior views are analyzed for general proportion, method of roofing, window treatment and the design of structural features, An appreciation of domestic architecture is thus developed.

The laboratory work in house planning consists of such problems as the following:

To plan a one-floor arrangement on a scale of $\frac{1}{8}$ inch to 1 foot (bungalow apartment or one floor of a two-family house); to plan (on same scale) a two floor arrangement (a suburban house for a given site and for a family of given size, or a farmhouse); to plan an economic kitchen on a scale of $\frac{1}{4}$ inch or $\frac{1}{2}$ inch to 1 foot.

In conclusion, work in planning cannot be taught to immature students, but should be reserved chiefly for persons beyond the high school age. The essentials of good planning should, however, be understood by teachers who are working with Home Economics and decorative subjects in the secondary schools. Just as chemistry underlies the teaching of all food work, so a sense of house planning

should underlie the teaching of decoration, sanitation and household management.

Our present problem is to find persons who are fitted to teach planning, for it is not a subject that can be "picked up" by any one, and, if improperly taught, not only fails to be helpful but becomes positively harmful. No one can teach to others a subject which he himself does not understand. In the absence of trained teachers, seminary sessions or round table discussions could be appointed, and all prevalent and new ideas of housing could be challenged and discussed. Often the interest of some live, sympathetic architect who really plans houses could be secured, with mutual benefit to himself, to teachers and to students.

We should look forward to the time when the house shall not be viewed as a desirable thing to have and to hold for its own sake; shall not be a statement of material prosperity with which to impress one's friends, but shall serve as the true laboratory of home making. A place where in every arrangement one feels such simplicity, directness and refinement as one needs for plain living and high thinking.

We cannot of course immediately demolish or remodel all dwellings that do not come up to these newer ideals of housing, but if education in home subjects takes a far look ahead, it must begin now to direct the building of coming generations in an economic direction.

PRESENT TENDENCIES IN HOUSEHOLD ARTS TEACHING

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The situation in the field of household arts is most interesting and the point of view in regard to methods of teaching is rapidly changing. A strong tendency exists toward making the subject more effective than ever before in the life of the community, and the progressive household arts teacher finds herself critical of her own methods as she attempts to meet the new problems that confront her daily. Well organized courses in domestic science and domestic art proceeding in a logical and orderly method from the point of view of the subject itself and well related to the other subjects in the school curriculum do not meet the present needs. Indeed we find ourselves face to face with the fact that in this subject as in all others we have developed a

decided academic tendency and are using methods that were progressive ten years ago but that must be discarded or vitalized if the work is to be abreast of the times. The change has doubtless come about as a result of the development of vocational education which is revolutionizing the stereotyped school program; and the growth of extension work in the rural communities of the United States is reacting upon school methods.

In order to meet the needs of the community, subject matter in the household arts needs to be greatly enriched and organized in such a way that the pressing demands for knowledge along certain lines shall be adequately met. This means, in the first place, that the subject must be looked upon, as a whole, as the study of the home itself with less emphasis placed upon such topics as food preparation, and the actual sewing and making of garments. There are of course certain fundamental principles of nutrition and food preparation always to be taught, and certain other principles in the field of textiles that may be looked upon as constants. There are other topics that may be classed as variants to be selected and emphasized whenever need arises as, for instance, the cost of food, markets, and methods of buying, food sanitation and adulteration of textiles. At present these variants are of vital import in our daily lives and must therefore be emphasized in any household arts course that is to be a live course. To illustrate, instead of basing a course upon food principles and methods of preparation, food economics should be made the large thought and the question of these principles should be secondary. Some such problem can be given as the following: What should be the allowance for food for a family for a year with a given income? This being decided upon what kind of food can we have every day? Or, given 50 cents, what can be purchased for a family of four or six for a dinner that will fulfill the dietary requirements? Such questions as these when taken seriously will revolutionize the course of study.

Another aspect of the matter is the effect upon laboratory methods of the tendency toward vocational work. In work in foods the giving of small quantities only is a most ineffective practice. While the small quantity need not be discarded for the teaching of certain principles it must be in some way supplemented by the handling of material in large quantities. This must be accomplished by utilizing every opportunity possible for working in connection with a school lunchroom, or by making articles to be sold. Again, the need of repetition

in the practical work is keenly felt by those teachers who are working for efficiency, and this will necessitate a change in the course of study.

Current thought in the world of education is also having its effect upon the household arts work, working with these other elements in the situation to produce a change in method. The idea that we must give to the pupils what will function in their own lives is applicable in the household arts field. The household arts teacher will seek for opportunities in the life of the school to make the work real; coöperation, for instance, in school entertainments which form at present so large a part of school life. Indeed the whole course will be planned with the thought in mind of what the pupil herself needs and what she can take to the family rather than from the point of view of applying science in a neatly arranged and more or less logical course. The teacher of the household arts has never before had such an opportunity as now presents itself in our great cities and in the rural communities, if she can free herself from her own preconceived ideas and throw into the waste basket the course of study that was useful in its day but is no longer worth while.

SOME RECENT EXPERIMENTS IN THE TEACHING OF FOODS AND SANITATION

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The one-time "cooking teacher" is a personage of the past. In the fore ranks of education today stands her successor—the broad minded teacher of household arts, inspired by sympathy and stimulated to effective service through an appreciation of her opportunities in a constantly widening field.

The woman who enters this field of service must possess courage, initiative, faith, and the spirit of experimentation and adventure. Occasional failure and frequent disappointment must be welcomed as building stones in the structure which is growing under her hands. She must know that her success will depend upon her ability to realize the needs of those whom she serves and, given this, upon the power to meet those needs with sanity and sympathetic wisdom.

Fortunate is the teacher of foods and sanitation who is ***willing*** to

venture and is *free* to do so. She will discover that her laboratory is unbounded, that her subject matter is limitless, and that each day may be an enthusiastic excursion into new and interesting fields.

Many agencies are already well established which serve to unify and vitalize the numerous avenues of work which teachers of household arts rightfully claim as their own. The Camp Fire Girls movement has cast a romantic glow over many of the simple home tasks through honors, rhyme and song. The canning clubs, first established by southern enthusiasts, have dignified certain forms of work and have given it a money value. The Housekeeping Centers of New York City, established and directed by Miss Mable Hyde Kittredge, have successfully demonstrated the possibility of duplicating the home in the school. Credit for home work as developed in numerous communities throughout the country has very successfully effaced the barrier between the home and the school.

The papers which follow are brief statements of experiments in the teaching of foods and sanitation. They have helped to vitalize the work as handled by these teachers; and although they make no specific claim of originality, they are offered as possibly suggestive in their adaptation. The first is an account which Miss Mary Elizabeth Pillsbury has written of work done at a neighborhood house during her senior year in the Household Arts Education Department of Teachers College.

It all came as the result of asking this question: "How can these boys and girls be made to want all that there is for them in the household arts treasure box?" The four room flat which the boys and girls called *home* was the answer to that question.

A cooking teacher was needed in a Settlement House on the upper East Side. The people in that district were either Italian born or of parents who were born in Italy. The houses were typical of the tenement districts, three and four box-like rooms being made to house large families averaging seven or eight each. The Settlement House itself was a substantial three story frame house.

Here, one evening in September, on the top floor in a small room six Italian girls came together to learn to cook. The equipment consisted of a sheet iron gas range with two burners, a few utensils, a long table and cold water supply. That was in September. By the end of January, necessary additions having been made to the equipment from time to time, we had covered in our weekly meetings typical

breakfast dishes, candy making, and cake making. As for the cooking of food the work was progressing smoothly. But that was a small part of the household arts treasure store; the serving of the prepared meal the care of the dining room, the selection of food, care and storage in the home, home sanitation, and many other problems had to be passed by with a few words. In our one little room we could do nothing with these vital problems.

A flat of three or four rooms, in the district in which the boys and girls lived seemed to be the necessary thing. It would be a "home" where we, as a big family would naturally enter upon the activities of the home—cleaning, washing, ironing, sewing, mending, cooking, etc.

After careful figuring, the amount of $200 was found to be the lowest estimate for furnishing and repairing and for three months' rent of a suitable four room flat. The Settlement promised $100 and the rest was secured, either in money or furnishings, by personal letters.

In selecting the flat, light and air were considered but much interior painting and tinting had to be done in order to make the place desirable. Much of this work was done by the boys and later they stained the furniture which was purposely bought unfinished. The kitchen equipment was placed by the children, necessary shelves put up, and the home gradually put into running order. No boy or girl is admitted to a cooking class unless he or she has on an apron. The boys cut out and made their aprons, using the style that the butchers wear. One teacher said, "The boys think they are being taught to cook, but we think we are teaching them to be clean." Five of the six boys in one class have been persuaded to take a bath and clean up before coming to the class. The care of the hands is being insisted upon and with the help of rose water and glycerine, which is distributed in small bottles, the rough black skin has given away to smoother and cleaner skin than was ever thought possible. All this has been accomplished in the name of "cooking."

For a recent exhibition the boys made 350 doughnuts and made and served waffles and coffee for 50 people; the girls made 50 cup cakes, 2 pounds of fudge, and 2 pounds of butterscotch, and made and served 7 quarts of peach and apricot marmalade. The sum of $4.11 was cleared after all expenses had been deducted.

We hear of lack of interest in certain mechanical processes, so essential in the training of the thorough housewife. Miss Florence

E. Winchell, Director of the Department of Domestic Science, Ethical Culture School, New York City, tells in the following statement of the satisfying results of a cleaning contest.

The cleaning lesson is an absolute necessity in household arts work irrespective of the age of the pupils. Distaste for such lessons is due principally to the disappointment felt by the girls when they find they are not going to cook. Certainly such an attitude is dampening to the ardor of the sympathetic teacher, for so much of the pleasure in school work depends upon the team work between pupil and teacher. The cleaning lesson often seems to need something to clear the atmosphere and set an attractive goal for the group to work toward.

The success resulting from contests in bread making, corn raising tomato canning, etc., prompted us to put a cleaning lesson in two seventh grade classes in the Ethical Culture School upon the contest basis. The two classes worked at the same hour in adjoining laboratories. The choice of judges, one from each class, was made entirely upon the reputations of the children for good judgement and fair dealing. Each judge was given a score card and asked to mark every girl in both classes on each point. They worked independently and at the end the scores were averaged.

After a brief discussion of the score card as typical of the requirements made by employers of all kinds of help the groups went to work. Such vigor, such businesslike attitude, and such results were unprecedented. With those particular classes the scheme worked like a charm. The difficulty came in getting the classes to leave the laboratory. The completion of the score cards depended upon the finishing of all the work and held up the final report. However, no engagements were pressing enough to prevent their waiting for the decision of the judges. The decision was accepted gracefully by the girls of both groups. In the score card used the division of points was made as follows:

Manner (animation, vigor, quietness), 25; method—speed 15, neatness 15, handling of material 15; result—cleanliness 15, order 15.

The debate described by Miss Amy Logan, teacher of foods and sanitation, Horace Mann School, New York City, is suggestive as a means of strengthening interest and research in vital food problems. Miss Logan writes: The domestic science class in the sophomore year of the Horace Mann High School was recently using a can of tomatoes to make a sauce. The class had already canned vegetables and put

up preserves, and as one girl opened the tomatoes she said; "I wonder if they are as good as ours. Is it better to put them up at home or to buy them?" Another remarked that this sounded like a "debate question." Whereupon they asked the teacher if the class might debate the point. Consent was readily given. A girl was selected to act as president, who stated the question: "Resolved, that foods canned at home are better than commercially canned goods." Four girls volunteered for the affirmative, four for the negative, and a lesson period two weeks ahead was set as the date. The teacher suggested several books and magazines for use as reference and placed copies in the school library. She then consulted the English teacher who kindly offered to coach the class in the formalities of debating, but used other subjects as illustrations leaving this one for the girls' independent effort.

On the appointed day the president chose a time keeper and a secretary while the remaining members of the class acted as judges. The speakers quickly warmed to their subject and discarded their rough briefs; indeed, the interest and excitement became so intense that time was called on several of the debaters and the president was obliged to call order to prevent the judges from joining in the discussion.

The points advanced by the affirmative were: better flavor of home products, individual preferences, assurance of purity, and the housewife's control of sanitary conditions. The negative contended that commercial goods generally cost less; that they save labor in hot kitchens, that they are always procurable at the grocer's, that the large canneries with modern equipment secure better sterilization than is secured in many homes, and provide perfect cleanliness. (Example, the Franco-American establishment which many of the class had visited.)

This last point wrought the downfall of the negative, for in the rebuttal the leader of the affirmative with fine scorn declared that if a "housewife did not care to keep her kitchen clean and allowed kittens to play about, she deserved to eat grocery-store mince pies!"

Altogether it was an excellent lesson. The girls felt the responsibility for its success and since they had suggested holding the debate and were free to develop the material they were on their mettle before the judges. Also their interest in the canning industry, that big phase of our modern food conditions, has been thoroughly aroused as shown by the bits of information often brought to class—information that would have made fine points in the debate.

The cost of living in New York City is perforce one of the dominant subjects for discussion in the homes of many families. In order to personalize the work of the Eighth Grade at Speyer School, during the current year the following scheme has been developed: A typical family, Mr. and Mrs. Knickerbocker, and their children, Mary aged 12, Hans aged 8, and Betty aged 2, have moved to New York City from Connecticut. Mr. Knickerbocker is a salesman, earning $1200 per year. Under the following problems the work of the year has progressed.

What must Mr. Knickerbocker's salary pay for? How can he and his wife divide it so that they can pay the bills and still have some left for a rainy day?

What can Mrs. Knickerbocker do during the summer, while visiting her mother on a Connecticut farm, that will help to keep the grocery bills lower in winter?

How can Mrs. Knickerbocker know which foods will give her family what they need for health and growth? What are Mrs. Knickerbocker's hygenic responsibilities?

How do Mrs. Knickerbocker's simple tastes in dress and house furnishings affect her laundry problem?

How much shall the Knickerbockers spend for Thanksgiving dinner, and what shall they have? Preparing for the Christmas holidays—Grandmother and Grandfather to be guests. "The fire of hospitality in the home and the glow of cordiality in the heart." Mr. and Mrs. Knickerbocker entertain very simply in the evening. What shall they serve?

The planning of the meals. Mrs. Knickerbocker finds that eggs are growing cheaper and taste better. How can she use them in her meals? What other food may she serve that will help to keep down the meat bill and still give her family enough protein? Using the "left overs" as a means of keeping down the grocery and meat bills.

Shall Mrs. Knickerbocker bake or buy her bread?

Betty is in her "second summer." What can the mother do to keep her well and happy? (Demonstration of bathing and dressing of babies.)

Hans' birthday. What shall his mother serve at his party?

Under each problem as stated the practical processes connected with foods, their selection, their preparation and service, cleaning

and laundry work are taught. In a course on "The Home" during the second half year, the actual rejuvenation of the roof-room at Speyer furnished the basis for the discussion of art, comfort and sanitation in the home.

A bread contest among the girls of the seventh and eighth grades followed the lessons on bread making. The bread was made at school by the girls, was judged by three members of the staff in the Foods and Cookery Department, Teachers College, and was served with cakes and cocoa at the parents' meeting, at which time the results of the contest were announced.

Is it not helpful for teachers to read of the adventures of others in this new and fascinating field? There is true inspiration in the realization that the work calls for more than serious, plodding, daily duty; that it demands originality, spontaneity and adaptability to environment.

THE NEED OF HOME ECONOMICS IN EDUCATION

[The importance of Home Economics is discussed from different points of view in the pages which follow.]

HOME ECONOMICS AND HIGHER EDUCATION[1]

ABBY L. MARLATT

Higher education has been so long dominated by the study of the humanities that we now find opposition when there is an attempt to increase the number of the subjects which are supposed to give moral and intellectual discipline, to elevate and humanize the student. The question comes, not does the study of the newer subject widen the view but is it honored by custom or is it so far divorced from daily use that the perspective softens the crude outline and allows us to read into our half seen picture the imaginative ideal that stimulates speculation?

After all why should a few centuries or decades between us and the topic make so much difference in the moral and intellectual outlook gained? Can we not gain in power and breadth of view, providing we pursue the subject intensively and also broadly?

[1] Extracts from papers prepared by Abby L. Marlatt for the Second International Congress for the Teaching of Household Economics, Ghent, Belgium, and for the Home and School League, Philadelphia.

Are food, clothing, shelter and family, when studied through Greek and Roman History cultural but when studied in relation to our city slums or country villages utilitarian and therefore uneducational? If time has such a refining influence in separating the gold from the dross, then time is the true alchemist. In future ages the study of Home Economics will rank as pure gold in the education exchange, for the present home will be archaic and therefore divorced from use and a subject of speculation. Even now it is difficult to determine what may be history and what may be the tool of tomorrow's labor. All Home Economics courses confront the shifting of social standards and therefore it means that the "do" of today becomes the "history" of tomorrow. Over night our pet theory becomes another "hypothesis that does not work." Little of our knowledge has the exactness of mathematics. Each day sees some new discovery which makes the explanation of yesterday impossible. That is the joy and the sorrow of the student whose mind is open. We sigh for "dead languages" that are so quiet in their repose and need only to be excavated with care. To study where every tomorrow may explain the unknown of yesterday, that is the joy of the explorer.

The broadest education for the woman who is to make the home of the future must have as its center the training in that body of knowledge called Home Economics if it is to be most efficient.

That the woman of trained mind is needed in the control of the factors of the modern home is voiced by Mrs. Richards in her book on the "Cost of Living." "The educated woman longs for a career, for an opportunity to influence the world. Just now the greatest field offered to her is the elevation of the home into its place in American life. * * * * The housewife who is worried by her servants, cheated by her tradesmen and is helpless before her furnace and her cook is still a savage—has not grasped the meaning of the environment which we call home."

The modern home is a laboratory for applied science where the effort should be for the maintenance of the physical well-being and for presenting the right environment which shall lead to perfection in the child's mental and moral development.

To manage this working laboratory with its water supply, its heating and lighting apparatus, its sewage system and its ventilation problems, requires more than ordinary sense. It requires an education in applied chemistry, physics, biology, botany, sociology, business methods and general household management.

There is no other profession which so bristles with unsolved problems, for instance: What industries may be removed from the home? What industries should be retained? What is gained or lost in utilizing public laundries, bakeries, housecleaning companies? What moral and economical problems are to be met in using ready-made clothing? Shall the helper live in the house or come in for certain stated hours? What moral relation is there between wastefulness in wealthy homes and false standards among the less well-to-do? Should the present kitchen equipment be sacrificed and the electric hotplate and fireless cooker substituted? Is there not greater economy in many homes having a central heating plant requiring the services of but one man? What should be the relation between the expenditure and the income?

None of these can be answered alike for all, and therein lies the difficulty and the pleasure in household management—it takes brains.

HOUSEHOLD ADMINISTRATION, HOME ECONOMICS AND DOMESTIC SCIENCE[1]

F. F. Wesbrook

These are terms with which we are all familiar and indicate that this generation is waking up to the need of special training for the most important work in nation-building. The successful making and keeping of the home is indeed a profession which requires the most careful training of women of the best moral fiber and the highest mental equipment. The housekeepers of our land are those who perhaps spend the bulk of the nation's money. Yet in the past there has been little in the way of careful training for this most important economic work. The home-keeper is not less important in our social development. We leave to woman very many nondescript duties included in the care of the home. She it is who knows all details of the children's physical and intellectual progress. She has accurate information about our schools. To her we turn when problems of civic house-cleaning and house-keeping arise through man's negligence. It is, therefore, most appropriate that at length we are providing practical as well as cultural training in order to enable woman to meet some of her obligations.

[1] Extract from inaugural address by F. F. Wesbrook, president of the University of Winnipeg. *Science*, n. s. xxxix, 1914, no. 1003, pp. 407–418.

Universities must train our leaders in women's work and provide facilities for research in the science of home-making and the art of housekeeping, if the word "*home*" is to remain current in the vocabulary, and this most important phase of our national life is to keep abreast of commercial and industrial progress.

THE HOME MAKER'S SCHOOL[1]

MARGARET STANNARD

The private schools, of which there are many in the United States, seem best fitted to offer instruction in home making. They have relatively small classes, freedom in the planning of work, and girls chiefly from families in which there is no economic pressure. These girls have little, if any, home training in this direction, and it is most important both for themselves and because of their influence on other less privileged classes. At the present time the private schools are doing practically nothing. The refusal of the private or endowed colleges to give credit for Home Economics is one reason for this, no doubt. Another is, that the private school itself cannot see much beyond the "trade" side of the work. To them homemaking means merely cooking and sewing. They fail to see that there is a home side to every subject taught, which would broaden, not contract, the field of culture. This fact needs but to be recognized by public and private schools to dignify the work and to make it popular with the best type of girls.

Meanwhile, special schools of home making are needed to supplement and extend academic training.

There are already a few such schools in the United States to serve as object lessons. These schools offer one or two-year courses to girls who have graduated from secondary schools or from colleges. They do not prepare for teaching or other wage-earning occupations, and are professional only in the sense that home making is a profession. Their aim is manifold: To save a girl the hardship of learning solely by her own experience; to save the family and society the waste of such methods; to make of every woman an intelligent coöperator in improving home conditions; to remind academic schools of their duty and to suggest to them ways of performing it.

[1] Extracts from a paper prepared by Margaret Stannard for the Second International Congress for the Teaching of Household Economics, Ghent, Belgium.

In these special schools, all the work centres around the home. History becomes the study of the evolution and growth of the family as an institution, and of its relation to other institutions; home life at different periods is also studied as a revelation of its influence on the whole social and political order. Ethics becomes a study of family relationships and their corresponding duties; psychology and physiology are brought to the service of childhood, and the further responsibility for the next generation is emphasized by the study of eugenics.

Literature is discussed with reference to the choice of books for the home library, the various uses of books for inspiration, amusement, education etc., for old and for young. The principles of art are used in the selection of home music and pictures, and also in the building of the house, in its furnishing and adornment and finally in the selection of clothing for the family. Economics, combined with practice in buying and accounting, provides for the business side of the home makers work. Experiments in applied chemistry, bacteriology and physics furnish a scientific foundation for the study of food, of sanitation, of mechanical devices, etc.

The so-called trade side of the home maker's work, cooking and sewing, is allowed its due share of time, both for the illumination of principles and for the development of practical skill. The work of the modern home maker, however, is chiefly economic and educational, rather than industrial; she must learn to adjust values and to choose wisely for herself and for her family.

THE EQUIPMENT OF THE WASHINGTON IRVING HIGH SCHOOL

EDYTHE M. POWNALL

The Washington Irving High School, New York City, has been given many names—"the largest high school in the world," "the school of a thousand welcomes," "the school that is different," "the school with the go." It has deserved all of them, some more than others, and many factors have contributed toward making it worthy of them. Not least among these is the equipment for all the courses —the result of the thinking and planning of the heads of these courses during the long ten years before the present school building had actually materialized.

The idea of those who planned the building was to have certain floors devoted to certain subjects. Some floors are given up entirely to what we might call academic class rooms, while others have rooms designed for the technical subjects, with additional academic rooms for the academic subjects that the girls of those courses take. Thus we find the commercial work on the second floor, the domestic art entirely on the third, domestic science on the fourth, and science on the fifth. Drawing is concentrated mainly on the sixth, seventh and eighth floors, and shares the space with the music rooms, the chemistry and physics laboratories, and the regular recitation rooms. The gymnasiums, which accommodate every one of the five thousand girls twice a week, are in the basement, and on the fourth and eighth floors.

Visitors—and there are many—have varied purposes, but not a few come mainly to see the equipment, the fame of which has spread widely, particularly to those communities that are contemplating new school buildings of their own. Such a visitor is shown from cellar to garret, or, in terms of the Washington Irving, from the bright, welcoming foyer to the sunny, spacious roof. The foyer, with its pictures (the Washington Irving High School is a regularly constituted Municipal Art Gallery and already boasts of five different exhibits this year), with comfortable chairs and benches, and with smiling girls to guide the visitor over the building, lives up to the motto of hospitality engraved over its blazing fireplace. This fireplace is the pride of the young guide, who is loath to conduct the visitor away, even to the auditorium. The auditorium accommodates about fifteen hundred. From its gallery, lantern slides and moving pictures can be exhibited. The stage has dressing rooms and is equipped with four or five settings and drops. The Children's Educational Theater has used it frequently to present the "Prince and the Pauper."

The remainder of the first floor is taken up with offices, a book-binding room, fitted up with an imposing table and a printing press; the salesroom, in which the work of the art and domestic art and science departments is sold; and the library. Adjoining the library is the class room for the girls who take the library course. Here the young librarians find their desks fitted with racks for their black and red ink pens, and with small drawers to the side, for practice in card cataloging.

Only one room is needed for the library girls, for the number taking the course is small, but a whole floor and more is devoted to the rooms of the commercial courses. The second floor contains almost all of the

commercial work. There are stenography rooms with ruled boards and typewriting rooms with typewriting desks and desks that hold the mimeographs. In the bookkeeping rooms the girls sit on high revolving chairs, with the ledgers kept open by the brass clamps that hold them upright against the high back of the desks. On this floor, too, are the bookkeeping rooms and the bank—complete in every detail, with paying teller, receiving teller, bank book, deposit slip, and depositor.

The domestic art and the domestic science departments occupy the two middle floors of the building. The dressmaking girls are proud of their department, and grow attached to these rooms where they spend almost half of each school day. They will point out with pleasure the closets with compartments into which the sewing-boxes fit—or the wardrobes with the brass rods and "arms" from which the finished garments hang. At one corner of the room heavy brown curtains enclose a fitting room with a full length mirror and a stand for the hanging of skirts. The sewing tables are cutting tables as well. A wash basin, electric irons for pressing, and sewing machines complete the outfit of each sewing room, although in one there is also to be found a perforating machine, in another a hand loom, while a third is given over entirely to hand and power machines. The halls of the building above the main floors are lined with exhibition cases for the work of each department. In the domestic art department these are used largely for exhibits of laces, of embroideries and weavings of many countries, and of specimens of old time dress, precious relics of grandmother's day, loaned to the department. An unusually complete exhibit of spinning wheels is worthy of mention, although it could not properly be called part of the general equipment.

The Domestic Science Department is concentrated on the fourth floor, and consists of four kitchens, an exhibition dining room, a laundry and a model apartment. In each kitchen is a series of marble-topped tables with drawers and cupboards, for the kitchen utensils of each cook. On this marble top at regular intervals stand the individual stoves, consisting of one burner with a detachable oven. The broiling and roasting are done in the large institutional stove which almost fills one side of the room. The remainder of the room is taken up with large cupboards and porcelain sinks. In connection with the cooking, the girls are taught serving in the exhibition dining-room, one of the most attractive rooms in the building. It is in the kitchen and this room that the domestic science students busy themselves for three

of the five months of the course; the other two are spent in the laundry and the model apartment. The laundry has twelve porcelain tubs, an electric drier, a large wash boiler, a small gas stove for the making of starch, and electric irons.

The model apartment is the pride of the domestic science section. It invites all to come and see how five rooms and a bath may make an artistic, an inexpensive and an efficient home—or at least, be the framework for such a home. It is composed of a bath, a kitchen, a pantry, a dining room, living room, bed room and a nursery. Not only are the girls taught economy of money and energy, and for that purpose are introduced to a kitchen containing a fireless cooker and a kitchen cabinet, but they are given lessons in decoration—in simple color combinations of wall-paper, hangings and furniture. The living room is supplied with three different sets of furniture—mahogany, craftsman and willow, the dining room with mahogany and craftsman, the bed-room with a white and an oak set. The paper of the nursery has a deep nursery rhyme frieze, the famous inhabitants of which look down upon a white iron crib, a shining white chest of drawers, a baby's washstand, and a low white rocker.

Many of course are the changes in curtains and hangings that can be made to suit these various sets, but to change the wall paper was at first a problem. It was solved by having the molding put on hinges. Thus it can be raised, different strips of paper tacked into place, and a new wall paper, calling plainly for a change in furniture, is the result. The living room and dining room can be thrown into one, and with the hangings between the two, the low couch, and the curtains at the windows, offer much opportunity for studies in materials, and in combinations of colors.

The floor above the domestic science department is devoted to the biology department. It contains a vivarium, supplied with specimens from the Zoölogical Gardens in the Bronx and has an annex on the roof in the shape of a greenhouse. In the botany room the desks are arranged so that the girls face each other. Thus they can work with the same specimen, although individual microscopes are used. Exhibition cases lined with mirrors, storage closets supplied with ice boxes and basins, a chart room, and a room fitted with a lantern and slides for illustrated lessons, are some of the features of this department.

Rooms so fitted out are also to be found in the physics and chemistry departments, in addition to their fully equipped laboratories. Such

rooms are at the disposal of any department that can use them, and are a distinct adjunct to the academic class rooms. These latter rooms differ from the average class room in their show cases, their filing cabinets, their many storage closets, and chiefly in their desks, which are not desks in the ordinary sense, but are tables with shelves underneath. The art department has developed a special variety of desk—one with places for pen, water and ink, and a movable top on hinges, which may be raised to any angle and used as a sketching board. In coöperation with the domestic art department, they have a costume design room, containing full length mirrors and blackboards, and desks which are arranged in a semi-circle, with a platform for the model in the center.

Music rooms like small concert halls, gymnasiums fitted with the newest apparatus, lunch rooms and rest rooms, complete the building and bring the visitor to the roof where he may rest and watch a rapid game of basket-ball, or where he may ponder, as he gazes over the city stretching out before him, upon the activities of the miniature city housed beneath him.

PUBLIC BATHS IN LARGE CITIES

THOMAS M. BEADENKOFF

Secretary of Public Bath Commission, Baltimore

On account of the universal lack of clean bodies and clean clothing, clean houses and clean streets and roads, the Black Death and other plagues found a soil ready for rapid growth. The Black Death visitation of 1348 is said to have carried away about one-half of the population of Great Britain. It is only within the last century that medical science has awakened to the value of simple cleanliness as the best defence against disease.

Slowly the idea of the need of bathing facilities in the home has grown and widened until in some localities, in American cities especially, there is ample provision for baths in the home. Unfortunately this is not the general condition. American travelers are well aware of the lack of baths in Continental hotels and the bath room as known in American homes is rarely found in the average city residence abroad. In the capital of Holland, The Hague, nine residences in ten are

without bathing facilities. The city of Amsterdam, with a population of 400,000, averages 27 gallons of water per day to each inhabitant. American cities like Chicago, Buffalo and New York, average from 150 to 200 gallons of water each day to each inhabitant. These facts indicate that the facilities for cleanliness in many European cities are too meager to insure public health. Many American cities are no better off in their older and congested sections. A government inspection, made some years ago in what were called slum districts of New York, Philadelphia, and Baltimore showed as high as 90 per cent of the population to be without bathing facilities.

For such neighborhoods public baths have been established in many European and American cities. The first one in Great Britain was built in Liverpool in 1842. Soon the idea spread to Dundee, and later to cities of the Continent. In America since 1890 most of the leading cities have established these baths and they are largely used. In 1911 New York City had twelve public baths containing 1377 showers and tubs and three pools. At a cost of $336,000 for maintenance and operation, 3,581,846 baths were provided during that year.

In Baltimore in 1894 a group of philanthropic men and women, to meet the demand for a harbor swimming place, erected a few sheds on the beach; they were well patronized and for a few years the city contributed $500 annually toward the erection and maintenance of these dressing sheds at three or four stations around the harbor. Each year 35,000 or 40,000 bathers used these places but the promoters of the plan did not forget that sanitary cleansing baths were more important than summer recreation baths and several meetings were held in connection with the Maryland Public Health Association in 1898 and 1899 urging the establishment of indoor cleansing baths for congested neighborhoods.

As a result of this agitation, there followed the generous gifts of Mr. Henry Walters who erected and opened the first Baltimore cleansing bath. Its value was immediately proven by a patronage, during the year 1900, of 70,000 persons. Since that date Mr. Walters has erected three additional bath houses in other parts of the city and these four indoor cleansing baths with one erected by Baltimore City in 1912 represent a total investment of $200,000 for the health and cleanliness of the people.

It should be added that five public laundries are maintained for

men and women who have insufficient facilities for doing their personal or family laundry at home: these laundries are in the basements of the bath houses. In most of the Continental cities the public wash house is unknown, but in British cities it is hardly second in importance to the bath house.

Beside these five baths mentioned above, four smaller houses called "portable" baths are also used as part of the Baltimore system. These portable baths are set up temporarily at corner lots in needy or crowded sections and are supplied with hot and cold shower baths. In 1913, 74,500 persons used these houses.

The original work of the bath promoters twenty years ago has not been neglected and summer swimming and recreation are carried on at four other stations in the city: two in public parks and two on the harbor's edge.

The present status may best be understood in a brief extract from the last annual report:

> In 1913 the indoor shower baths were used by 746,030 patrons, an increase of 92,000 over the previous year and the outdoor swimming baths recorded 301,924 patrons; an increase of 64,000.
>
> This grand total of 1,047,954 patrons represents large benefits to many classes of the community: To the poor living in congested sections who find in the baths an opportunity for health and cleanliness convenient to their homes; to other thousands who use the public laundries where for a few cents the family washing, drying and ironing may be done outside the cramped quarters of their rooms; to the 300,000 patrons of the outdoor swimming baths which furnish clean and wholesome recreation in the beautiful public parks or at the harbor's edge; and to the bathers at two athletic recreative centers where in 1913, 104,000 patrons were recorded.
>
> Another department of municipal work under the care of the Public Bath Commission is scarcely less important than any of the other four, namely, The Public Convenience Stations. By a fairly accurate count 861,000 persons used the two convenience stations last year.

The economy of management of baths and laundries, the freedom from political or personal influences in making appointments of employees, and the careful sanitary regulations have resulted in a large success of our bathing system which has given our city a national reputation in this department.

HEALTH HINTS FOR SUMMER

H. W. Hill, M.D., D.P.H.

Director, Institute of Public Health, London, Ontario

Everyone looks forward to the summer time; some because of the pleasure they expect away from home at seaside or lakeside or in the mountains; others because, although they must stay at home, they will be more free than in winter, go out of doors more and "enjoy" life better. This is true at least in the temperate zones; as we near the tropics, however, the summer is dreaded; and almost everywhere it is dreaded for children a year old, for the "second summer" is supposed to be the dangerous one.

For Those Who Stay At Home

Probably the most important health hint for summer time, for those who go away as well as for those who stay at home, is not a "hint" but a real knock down blow. It is this: the dangerous things about summer weather are heat and humidity; but the most dangerous is humidity; not the hot air but the dampness of the air. The next is that sun-stroke is not due to the sun shining on the head but to heat and humidity combined. The third thing is that the summer diarrhea so dreaded for young children is often not due to food, but to heat and humidity; and the last one is that if you must stay at home or keep your family at home or raise a year-old baby at home, saving your money to buy an electric fan will be the best summer investment you can make and will take away the need for many carfares, lemonade and ice cream charges; and will probably prevent sickness and even death. Every baby in our hot, humid towns in summer should have an electric fan. Why?

A great many surprising things are always discovered the moment we "go-look-see" as the Chinese motto runs. For hundreds of years, perhaps thousands, we have all believed religiously in sunstroke and covered our heads to prevent it; and we should have kept on indefinitely believing that the rays "baked our brains" if some one had not experimented to find out—using monkeys, of course, at first.

This is what was found out: a monkey in the tropics exposed motionless to direct sunlight without covering in the blaze of midday was usually killed in a short time perhaps half an hour. If his head

was well protected from the sun, but his body left exposed, he died almost as quickly. If however, his head was left exposed but his body was incased in a box through which a circulation of cool dry air was maintained, he survived indefinitely. Why? Because when wholly exposed to the sun or exposed all but the head, the monkey suffered from heat stagnation due to the heat of the sun preventing the escape of the monkey's own body heat through his skin; and the humidity of the monkey's own body, surrounding him like a blanket, only made this worse. When his body was incased in a box, and his own heat and humidity were removed constantly by cool dry air, the fact that his head remained exposed was of little importance.

So also men confined in an air tight room soon began to suffer badly from headache, general weakness, etc., the results of "bad ventilation." They were allowed to breathe outside air brought to them through tubes directly to their mouths. This did them no good: then others who were outside were allowed to breathe the foul air from the box; this did them no harm. What, then, was the reason the men inside suffered from headache, etc? The answer is again, heat and humidity; simply their own internal heat and their own external humidity lying around them like a blanket in the still air of the room. Turning on a strong electric fan, so that this blanket of hot and humid air next each man's skin was removed, greatly improved their condition without introducing a single particle of new air into the room.

Remember to go into this summer, whether at home or away from home, with a firm determination to avoid heat and humidity all you can, and, if you cannot alter the heat and humidity of the general atmosphere, to keep the humidity and heat immediately surrounding your own body down to the safety mark. This means wearing light airy clothing and as little as possible of it: it means also circulation of air, moving yourself about if you cannot move the air. Most people have noticed that sitting still in summer on a windless day is really worse than doing something, because, in part at least, any sort of movement from place to place tends to leave behind you your own heat-and-humidity blanket. Not only discomfort and sickness but even death may be prevented by acting upon this knowledge.

Of course, it is true that all exercise will increase your own output of heat and humidity. Do not imagine for a moment that active exercise while standing in one place, especially cooking or washing clothes, will remove your own heat and humidity: it will only make it worse. A gentle walk, however, will tend to cool you off because,

although the heat and humidity you generate is increased, the air you pass through tends to remove it faster than before, provided always that the air itself is less hot and humid than your air-blanket.

Children, especially little children, should be kept out of doors in the shade if there is even a breath of wind stirring; and babies should be almost free from clothing. But remember that sometimes the outside air will be hotter and damper than indoors and if this is so, indoors may be better than outdoors especially on windless days and far better than outdoors sometimes if your have a fan running indoors.

Cooling drinks are good so far as they go; but the more you drink, the more you will sweat: sweating, it is true, cools off the body, on days when the humidity is low enough to permit the sweat to evaporate; but when the general humidity is high, sweating results in a layer of moisture forming on the skin, that will not and cannot evaporate because the air-blanket close about you soon becomes completely full of moisture and can take up no more. Even then, however, a current of air will usually remove the moisture, although sitting in still air will leave you surrounded by it. You must have noticed how you feel as if plunged into an oven when you suddenly stop walking or running on a hot, humid, windless day; although the walking or running made you sweat and suffer, yet standing still was even worse; all because of your own heat and humidity collecting about you.

In summer time, iced water in moderation does no great harm: taken slowly, a sip at a time, it is a great relief often as a cooler; but for relief of thirst, water that is not iced is really more efficient. Ice cream is better than water to cool you off if you take it slowly, because there is not so much bulk of water in it to get rid of later. It is sometimes claimed that cream and sugar and meat are objectionable in hot weather because they "heat the blood." Perhaps "heating the blood" may be a way of saying something that means that they furnish heat to the body; but ordinary diet is partly for that very purpose and you cannot do without such internal heat any more in summer than in winter. Curiously enough, meat which is looked upon as "so heating" is no more so than bread or other starchy foods or sugar, while fat is twice as "heating." Moreover both starch (and sugar) and fat burn up more quickly in the body than meat does. The habit of abandoning meat in summer for bread and such things is not based on sound principles. Children need protein to "grow on" as well as merely to repair waste. All an adult has to achieve is the latter. Children are very active in summer, and need nourishment in sum-

mer, to repair waste and also to grow on, just as much as at any other time. Better to feed them well and then see that any surplus heat so generated is properly removed than to starve them, merely to keep them cool.

Bathing is a splendid way to get rid of extra heat. A restless irritable child, suffering from heat and humidity can often be greatly relieved by stripping off all its clothes, turning on the fan, or giving a cool bath, not cold, of course. Sponging off is a great relief also; but in humid weather, the child must be rubbed dry after it, otherwise the layer of water left on the skin, instead of cooling the child, adds to its own heat and humidity.

The Care of Babies. The care of milk for babies is always essential all the year round, but especially so in summer. It is not only that germs grow faster under summer conditions, but also that every little thing wrong with the milk is made far worse in its effect on the baby because the baby is already suffering from the heat and humidity.

Remember, especially, that only mother's milk is fit for babies under one year old. Eighty per cent, of all babies who die, are babies whom people try to "raise" on something besides mother's milk. If you are forced to use something else, do not take advice from the neighbors but get the best scientific advice you can, from the best baby doctor there is available, on how to make the poisonous foods that you must use do just as little harm to your particular baby as possible. Remember that some forms of summer diarrhea are infectious, due to germs, just as is typhoid fever. Such germs may be carried by flies; also by fingers and milk, food, etc. In such cases all the precautions necessary in nursing typhoid fever should be employed to prevent the spread of disease. All milk should be kept cool, and usually it should be pasteurized.

Heat, humidity, poor feeding are the things to guard against. If you get good milk and have it modified to suit the baby, you may still feed it too much or too little or at the wrong times, etc. You will see why the man was at least partly right when he answered the question. "What kills babies?" by the one word, "Mothers."

For Those Who Go Away

For benefit of "health," mental as well as physical, good food in plenty, a comfortable bed, and the chance to be out of doors the whole time, day and night, constitute ideals that all should seek. This means

sleeping out of doors, in the open, under the stars, in good weather; under a shelter, if you must, in bad. All who can be away for a week or more will enjoy this immensely, but it is hardly worth doing for a few days' stay, if you must sleep indoors on your return. It is wise to wear some kind of night cap at first, as well as a warm nightdress; and an extra blanket should be ready for use towards morning.

For avoidance of disease, the chief thing is to avoid association with infected persons in any such way as to receive from their infected discharges, directly, through mouth spray, sputum or hands, or indirectly, through water, food, flies, milk or the like, contaminated by mouth spray, sputum, hands or any bodily discharge.

How can you tell what people to avoid? Of course, if you go to your own cottage, among your own friends, you will know pretty well what to expect. But if you must stay with many strangers at a hotel or summer resort you must, as a rule, take chances more or less, and learn by general observation and "gossip" what persons are or have recently been ill with an infectious disease. The best defences you can organize, short of identifying the dangerous persons, which, of course, is pretty difficult in many cases, are connected with avoiding as far as possible, the mouth spray of strangers, or the handling by them of food, etc., that you intend to eat. The use of common roller towels, common drinking cups, etc., of course, is or should be, out of the question.

The water supply should be from unquestionable sources. If a well, it should be a well with a good curb (flooring around the pump), tight, so that water falling back on it does not wash down again into the well; and built up above the surrounding ground so that rains, do not run under the curb edge into the well. In limestone districts, surface wells are all under suspicion, and it is safest to boil the water from such. If the water comes from the public supply of a town or a city, careful inquiry can usually determine whether the water supply is exposed to sewage contamination or not. Some cities are notorious for carelessness in drinking sewage. If the local residents like sewage that is no reason why you should spend your summer vacation there. No community where typhoid is prevalent is any place for you to visit.

The milk supply should be from tested cows, and milked by clean, careful people. If a few of the women visitors at a summer resort will take an afternoon off together to see where the milk supply comes from, they will find it pays them wonderfully to do so, and they will learn, usually, some very surprising things. If you are uncertain about

the milk, scald it. Remember that "summer people" are often considered legitimate receptacles for anything in this line that is of no use to anyone else.

Flies in the kitchen and dining-room should be reason enough for a determined presentation of the case to the resort authorities, but flies in the kitchen or dining-room, *with unscreened outdoor toilets in the neighborhood*, are reasons in plenty—one reason to each fly—for promptly settling your bill and moving on. Summer vacation is no time to eat other people's bowel discharges with your food.

As to the food itself, the cooked foods are practically safe unless they are served cold or cool enough for flies to walk on them. But uncooked foods, bread, sugar, milk, cake, celery, radishes, lettuce, etc., are always ready to carry fly infections or infections from mouth spray and hands.

The cook's hands should be clean, and the vegetables should be washed and handled *after* the cook's hands are washed, not *before*, as very often happens.

Mosquitoes in some localities are a fearful nuisance: and the malaria mosquito may of course, inoculate you with the disease. The safest way to avoid both nuisance and danger is to keep away from where the mosquitoes are. This will encourage the local people to get rid of the mosquitoes so that the summer visitor will go there.

People often think there is something they can take that will prevent them from catching infectious diseases from other people, and they ask in confidence for "the secret remedy" which physicians are alleged to use for protecting themselves in visiting tuberculosis cases, typhoid, etc.; of which it is supposed they will not tell the public, lest disease be too much reduced thereby.

There are two such remedies available; for smallpox, vaccination; for typhoid fever, anti-typhoid inoculation. The former protects against smallpox for five years, the latter against typhoid for two years. Some day, when infectious diseases are properly looked after, neither will be needed. Even today, when we know where the infectious persons are, we can take precautions against them that make protective vaccinations unnecessary. But in some communities typhoid fever (perhaps the chief "summer vacationists" disease) is so common that your cook or milkman or vegetable man may be a convalescent or just coming down with it or even a "carrier;" and anti-typhoid inoculation for summer vacationists before they leave home has been seriously advised by some authorities. Quinine is a fair preventive for

malaria, but keeping away from malarial districts is a much better one.

In certain cities the autumnal increase in typhoid fever is unquestionably partly due to returned vacationists, developing the disease when they get back to work, for typhoid, as a rule, does not show even its earliest symptoms until two weeks after the germs enter the body, and usually another week at least elapses before the patient is sick enough to go to bed or call a doctor.

The wise summer resort keeper is he who will have his place, his food, milk and water supplies, and his help, properly inspected before the season opens. This is good business, as well as being the act of any good citizen who wishes to do legitimate trade and give his customers safety as well as a "good time."

In considering the relative importance, to the summer vacationist, of the different items here listed perhaps the most serious source of trouble (at least from typhoid, dysentery and other intestinal troubles) is the open, non-flyproof, outdoor toilet; the next, close association with convalescents or sick persons, especially indoors; the next, contamination of milk and drinking water; and last, the contamination of foods. In any one place, of course, the local situation may make one or another factor outweigh all the rest.

THE NEED OF TRAINED ASSISTANTS IN THE HOME

MARY V. SHAILER

It is important that the possibilities in this new form of service be outlined and it is still more important that the plan be tested in an experimental way in as many localities as possible. Bringing the work and the worker together with satisfaction to both will be the difficult part. The Household Aids Company of Boston some years ago did an admirable piece of work along this line and the report of the experiment which was written by Mrs. Richards will be reproduced in an early number of the JOURNAL.—*Editor*.

The home of today is greatly in need of assistance from the outside in the form of young women who have been trained in housekeeping, decorating, sewing, caring for children, and secretarial work. Can we standardize and coördinate these lines of work and elevate them to a plane which will attract our young women and girls?

[1] Extracts from a paper presented at the annual meeting of the International Child Welfare League, New York, May, 1914.

The greater activity of women in business, philanthropic and social affairs, calls for a system of easily obtainable assistance for the household, to come at call by the hour, or, to be regularly engaged at intervals. Increasing apartment and hotel living, higher rents necessitating economy in the size of apartments, and the higher cost of living making the waste of unskilled labor a matter to be reckoned with, together with the greater personal demands made upon the housekeeper for lack of permanent service, have changed methods of housekeeping and brought about new conditions.

"Efficiency methods" and "labor saving devices" are slogans of these newer conditions, and the home turns to the student of Home Economics for information and help. Can we make use of this need in the home, and the need of the young woman, and acting at a psychological moment, bring the two together?

The Proposition. To offer to young women and girls who expect to go into factories, shops and offices, special training in the vocations so essentially those of women, so wholesome, and so much more remunerative than those of factory or shop. These activities may afford opportunity for self-improvement and an uplift of ideals to the girl by reason of her intercourse with refined people in their homes.

The vocations are dignified, and many of them would command good pay while the training in Home Economics would be the best kind of preparation for the future homemaking of a girl.

Training in Home Economics would reveal her fitness for the work most to her taste and ability. The domestically inclined girl would choose the subjects under housekeeping; the artistically inclined, decorative art; the girl loving little children could be advised to prepare for the "student nurse;" the girl liking to care for the sick would learn convalescent nursing. If secretarial work were preferred, the girl should also specialize in some department of Home Economics, thus making herself acquainted with more than one field.

The factory offers but an incessant grind of machinery, a deadly monotony of toil, while a life of going from house to house offers possibilities for varied exercise and opens up a new world of experience and new opportunities. If the girl were capable and efficient, she would make friends of real value to her in her patrons. She would find change and variety in her various duties.

The Advantages to the Patron. In the stress of a busy life, in case of a slight illness in the family, at times of entertaining, or at the busy seasons, an efficient and tactful young person who performed

her task quickly with intelligence and system, should be a boon to a busy house mother or a weary business woman. In cases of emergency as when the home maker is temporarily ill, she may need a little nursing, a letter written, a book chosen at the library, the children bathed and taken out for air, a little mending at the stocking basket, packing done, flowers arranged, afternoon tea served, special arranging of furniture, a guest chamber prepared for an expected guest, an invalid read to, an elderly person cared for, etc. The business side of the proposition should attract the house holder because of the saving in cost of feeding, and in the rent of one less bedroom, both of which are to be considered with the present "living in" assistance.

Lodging. For the young girls who do not live with parents and are alone in the world, homelike boarding houses conducted by women of motherly years, capable of running a home for young girls, should be opened. (Here is work for dietitians who prefer home work.) In some parts of cities dwelling houses which could be utilized for this purpose have been left in business sections. Boarding homes could be opened in suburbs, and young students sent there from schools of preparation. Women's clubs should find practical work in opening a boarding home for the graduates from city schools.

Sources for Training Already at Hand. There are many high schools and various colleges and institutes, as well as classes in settlements and church schools where courses in some of these vocations can be taken to supplement that of the elementary school until our school system establishes its vocational schools. Day nurseries could be used as clinics for training student nurses.

The movement should be so organized, and the vocations so standardized and coördinated that there would be no confusion with the service of employees now living in the homes. This proposition is strictly for *visiting vocations.*

Suggested Plan to Form a Test Group. A group of ten or more young women, preferably college or high school graduates, to be formed, who are already qualified for work in some of the fields outlined. These young women while working out the plan should not be obliged to be entirely self-supporting.

There should be centrally located registration points at which applications for assistants would be received.

Patrons should be secured through private mailing lists.

A rigid investigation of all unknown applicants for a visiting student would be a necessary safeguard for the young girl.

A schedule of prices for each kind of work should be printed for the benefit of both patron and assistant.

The test group should be united by a common interest and an "esprit de corps" to succeed. Each girl should be chosen for her skill in her own specialty and for her tact. A common meeting place or club room should be arranged for where experiences can be discussed for the sake of gaining help from one another. Patrons should be requested to consider the movement from a business point of view and to treat the labor in that light. In the course of the consideration of this proposition the writer has found a demand for the service, and many young women ready to give it.

HOME CANNING

GRACE E. STEVENS

Department of Household Science, University of Illinois

The great problem of food preservation is to prevent spoiling and yet retain the full food value and the original or a desirable flavor.

The needs for food preservation are many: to prevent the waste of the season's fruits and vegetables; to extend their period of use with the least expense; to make possible an increase in the consumption of these foods which supply the needed mineral matter and bulk to maintain good health; to preserve food in a form easily transported; and to give variety to our all too often monotonous winter diet.

Each kind of the organisms, bacteria, yeasts and molds, which occur on all fresh food material and cause its decay, has its own preferences regarding food. Bacteria do not like sugar, nor do many of them like acid. They prefer protein-containing substances such as milk, eggs, meat, corn, peas etc. Therefore we find these foods spoiled most largely by bacteria, some varieties of which produce the seed-like forms, spores, which are very hard to kill. Yeasts prefer sugar and are not affected by weak acids. They, therefore, spoil our fruit juices. Both yeasts and yeast spores are easily destroyed. Molds grow on surfaces such as jelly, bread and fruit, but are readily destroyed even in the spore state. Since these microörganisms are plants, they require the conditions favorable to plant growth—food, warmth and moisture. The reaction of the material canned, whether acid or alkaline, has a decided bearing on the temperature at which microörganisms are

killed. This is illustrated by the ease with which fruits (acid) are canned as compared with vegetables (non-acid).

The methods of food preservation are classed as physical or chemical. Cold storage, high heat, exclusion of air as in coating eggs or sealing jellies, and evaporation as in the natural drying of grains, vegetables and fruits, represent physical means. Salt, sugar and smoke represent chemical means generally conceded to be harmless, while such chemical agents as borax, salicylates and canning powders are not to be commended in foods.

Canning is often a tedious process because thought has not been given to previous preparation. Cans, rubbers and covers should be looked over before the season opens and the necessary additions and subtractions made. There should be paraffin, corks for bottles and plenty of labels on hand. Then comes the beginning of the process which consists of buying the product to be preserved unless the home garden or orchard is the fortunate source of supply. The cost will be least and the quality of the materials best if large quantities are purchased during the prime of the season. The careful selection of good fruit that is neither over ripe nor decaying, will simplify the work and avoid great waste. The best portion should be used for canning and the poorer be made up into fruit butters or jams.

Vegetables require even more careful selection as they are hard to preserve at best. They will sterilize more easily, be much sweeter, and more delicate and juicy if they can be obtained fresh from the garden, while they are still young and tender. It is a commonly known fact that such vegetables as peas and sweet corn rapidly lose their sweetness after gathering because the sugar is in part changed to starch.

That these products may be canned under the best possible conditions, it is necessary to have the air and the canning room free from dust. The dishes used and the fruit cans should be thoroughly clean. No tin or iron ware should be allowed, since they are attacked by acids. The whole principle of canning is to kill by heat all bacteria, yeasts, molds and spores present and keep out all others. The result should be complete sterilization. One remaining microörganism can spoil a whole can. The can rubber serves as the seal against admittance of germ-laden air, and so it must be thick and flexible.

Fruit is easy to preserve because bacteria are easily killed in the presence of the acid. Then, too, fruit bacteria are not ordinarily spore

formers and are for that reason easily destroyed. A few fruits such as cranberries, rhubarb and gooseberries are so acidic that they can usually be kept by mere submersion in water.

The fruit should be carefully prepared. All spots and bruises should be removed as these make sterilization more difficult and detract greatly from the appearance of the finished product. If using thin skinned fruits, a minute's scalding in boiling water will cause the skins to slip off easily. If necessary to prepare the fruit faster than it can be canned, it should be kept from darkening by dropping it into water made acidic by the addition of lemon juice or vinegar.

The most common methods used for cooking and sterilizing fruit are the open kettle, the steamer, the oven and the fireless cooker. In the open kettle method, the fruit, preferably a small amount, is dropped into boiling syrup and cooked until tender. While still boiling hot, the material is filled into cans previously sterilized by ten minutes boiling. When these are full to overflowing, a cover and rubber, also sterilized, are adjusted and the can tightly sealed. In the steamer method, the fruit is carefully arranged in the cans as fast as prepared and the syrup, hot or cold, is poured over it to fill the can. The covers are adjusted, usually loosely (though many screw them tightly without resulting harm), and all are placed in a commercial steamer or an ordinary wash boiler containing cold water and fitted with a false bottom of pierced metal supported by strips 3 or 4 inches high. The cover is fitted on and the water brought to a boil and kept there from thirty to sixty minutes according to the fruit. If the cans are filled with hot syrup to make up for shrinkage, steam must again be applied for ten minutes. Then the covers, if loose, are tightened and the cans are allowed to cool. In the oven method the cans of fruit are prepared as for the steamer and then placed on asbestos sheets or in shallow pans of water in a moderately hot oven for twenty or thirty minutes. In the fireless cooker method, the filled cans are sealed, placed on a false bottom in a kettle containing water, boiled for ten or fifteeen minutes and then put into the cooker, water and all, to finish.

The above methods have been carefully compared as to cost, convenience and results.

Cost of Gas

Open kettle: 1 medium sized gas burner on half for 30 minutes = $.0045. This divided by 3 (quarts) = $.0015 per quart.

Steamer: 2 medium sized burners on half for 40 minutes = $.006. This divided by 13 (quarts) = $.00046 per quart.

Oven: 2 oven burners on half for 30 minutes = $.009. This divided by 14 (quarts) = $.00064 per quart.

Fireless cooker: 1 medium sized burner on full for 10 minutes = $.003. This divided by 2 (quarts) = $.0015 per quart.

This last method is useful and convenient for small quantities only.

The drawbacks to the open kettle method are that constant attention over a hot stove is required, the fruit is likely to become broken and valuable flavors volatilized; there is greater danger of spores falling in before the can is properly sealed and the hot cans, which must have been previously sterilized, must be handled more than in any other process. The oven method is considered easiest by some, but it requires much attention and causes most shrinkage in the can contents. The steamer method seems to lead with most favorable points: besides those evident from the above statements there are the advantages of plenty of water below to prevent burning; and the improved flavor and appearance of the product, since the cans need not be opened nor the fruit disarranged in any way after the first filling. There is a distinct advantage in filling the cans when cold with firm and comfortably handled fruit. The latter methods allow the putting up of from twelve to sixteen quarts at one time, depending upon the size of the oven or steamer. This decreases the fuel cost and the time and labor per can. If a range is employed, both methods can well be used simultaneously.

Syrup for sweet fruits requires two cups of sugar to four of water; for sour fruits, two cups of sugar to two or three of water, but too much sugar spoils the natural flavor of the fruit. Long boiling of fruits in syrup decreases its sweetness, hence the need for previously steaming hard fruits. Large fruits require one pint of syrup to the quart while small fruits require but half as much.

In fruit canning, the choice of a method is arbitrary, but for vegetables such as beans, corn, spinach and asparagus—protein-containing foods carrying bacteria which form very resistant spores—the steamer method seems by far the best.

The fresh young vegetables are thoroughly washed and loosely packed in fruit jars. If packed tightly the heat pentrates too slowly to accomplish sterilization in the ordinary time allowed. Water seasoned with sugar or salt or both is used to fill the cans.

Vegetables are steamed in three ways: by steam under pressure, by steam long applied, or by steam intermittently applied. The first

method is not often available in the home, though it is the one most commonly used in commercial canneries. Here the temperature is raised to 230° or 250°C., by holding the steam under pressure in a pressure cooker. These pressure cookers can be purchased for $10, $14 or $25 according to the size, and since they sterilize more surely and with less time and gas, their use in the home will undoubtedly become more common.

When steam is long and continuously applied, the cans are placed in a closed steamer of the type already referred to. Plenty of water is put in and the boiling continued for five to seven hours according to the kind and age of the vegetable used, and the size of the jar. Quart and two quart jars require a longer time.

The intermittent application of steam is carried out by applying it to the cans one hour on each of three successive days. This gives the spore forms a chance to become active or vegetative after the first or second steaming so that they can be easily killed.

There are various kinds of fruit jars on the market, each having its good and its bad points. The following statements are based upon the writer's experience with commercial jars. If bought by the dozen, a pint Mason screw top jar, with cover and rubber, costs $.0482; a pint Atlas, with cover and rubber, costs $.0774; and a pint Economy, with its lacquered rubber banded lid, costs $.0999. Since the average time that a fruit jar is used is five years, one-fifth the original cost of the jar is added to the cost of each can of fruit.

The Mason jar is not easily kept clean, the mouth is small so that whole fruits, such as tomatoes, cannot be used in it. It is hard to seal perfectly and likewise hard to open after the contents have cooled and contracted. The Atlas, a type of the spring-top jar, has a wider mouth and is very easily sealed. The glass cover is readily cleaned, but, if broken, cannot be replaced as can the Mason and Economy jar covers. The Economy jar has the widest mouth and a lid to set on and clamp temporarily with the provided spring. The cover is sanitary and rather easily opened when pierced before removing. The great disadvantage is the high cost and the trouble and expense of buying new lids each year.

A DISTINGUISHED WORKER IN THE CHEMISTRY OF FOOD AND NUTRITION

C. F. LANGWORTHY

All students of nutrition and others interested in the composition and nutritive value of food owe a debt of gratitude to the veteran worker, Joseph König, Professor of Hygiene and Food Chemistry at Münster University, and Privy Councilor, who celebrated his seventieth birthday last November and in whose honor a special number of the journal, *Zeitschrift für Untersuchung der Nahrungs- und Genussmittel*, has just been issued, its contents being made up entirely of articles by König's former students. For many years König has been an editor of this journal which is the organ of the Association of German Food Chemists. The articles published in it present the results of a wide range of investigations. In addition to original work, it contains an abstract section of great value and is a very important part of the current literature of food and nutrition.

Professor König received his Ph.D. in Göttingen in 1867. In 1871 he was made Director of the Agricultural Experiment Station at Münster, in 1892 an Honorary Professor in the University of Münster, and a full Professor in 1899. In 1898 he was made Privy Councilor and in 1900 a member of the Imperial Council of Health.

He was a pupil of Liebig and of Wöhler and to both of these he owes much. One can truly say that his interest in agricultural chemistry and in the chemistry of food and nutrition he derives from Liebig, and his remarkable accomplishment as an analyst from Wöhler. After his academic career was completed, he turned his attention to agricultural chemistry and in 1871 at Münster began the splendid investigations which have added so much to our knowledge of foods and feeding stuffs. Many of his investigations had to do with methods of analysis, such, for instance, as the determination of plant ash, the estimation of cellulose, and the determination of nitrogen-free extract in feeding stuffs and foods, and he has also contributed much to the chemistry of other food constituents. Mention should be made of his studies of the nitrogenous constituents of wheat gluten and their relation to the baking quality of flour, of his study of fish as food, and of papers on butter and fats, on the relation of dextrose to levulose in sweet wines and honey, and on ropy bread and ropy milk. Another interesting piece of work has to do with the utilization of diets characterized by an

J. König

abundance of protein and fat and by little of each of these constituents. Another valuable paper has to do with the most important results of scientific studies of human nutrition, and this catalogue might be continued. König has devoted much attention to water and water analysis. He has also published papers of interest to students of domestic art, for instance, one on the estimation of cellulose in woods and in textile fibers. In this and his other work, his pupils have shared.

All students of nutrition owe a special debt of gratitude to König for his monumental work on the chemistry of food and nutrition, *Chemie der menschlichen Nahrungs- und Genussmittel*. The first volume, "The Chemical Composition of Human Foods and Condiments," which comprises over 1500 pages, presents what is surely the largest and most complete compilation of analyses of foods and beverages. The clearness with which the material is arranged, the copious footnotes giving special data as well as bibliographical references, and the very large amount of material included make this an indispensable reference work for the advanced student. The second volume, "Human Foods and Condiments; Their Preparation, Composition and Characteristics, Together with a Summary of Theories of Nutrition," brings together from a great variety of sources an enormous amount of material regarding the nature and uses of food and food accessories. The third volume is entitled "The Examination of Foods, Feeding Stuffs and Commercial Products." As yet only Part One has appeared, a volume of nearly 800 pages, which deals with general analytical methods. In his Preface to this volume, which was published in 1910, König states that the Second Part is to deal with the details of the analysis and inspection of foods, food accessories and commercial products. This will round out and complete a truly splendid work which brings together more information on food composition, analysis, and nutritive value of food than any other single work of its character. These volumes have not been translated into English. Nevertheless they can be readily consulted by those who have no great knowledge of German, because the material is so clearly presented.

In view of the very valuable contributions on food and nutrition made by this famous investigator and teacher,—famous for his splendid studies of analytical methods, his work in agricultural chemistry, the chemistry of food and nutrition and in hygiene—it seems fitting that THE JOURNAL OF HOME ECONOMICS should publish his portrait and join with his many friends and admirers in wishing him many more years of successful endeavor.

EDITORIALS

Come to Cleveland! Last year our meeting at Cornell proved to us how helpful and inspiring the week of comradeship could be. The program of day after day presented our varied interests and revealed to us the thread of common purpose which holds us together. We "helped everyone his neighbor," and everyone said to the other "Be of good courage." Our generous hosts made us welcome in a home of unbounded hospitality. We are looking forward to another meeting which shall be quite as helpful and enthusiastic as the meeting at Cornell. Let us all help to make it so.

The meeting of the American Home Economics Association will be held at Western Reserve University from June 30 to July 3. This annual meeting will follow a session of the Institutional Economics Section at Lake Placid from June 23 to 27.

At the Cleveland meeting we shall have as hosts the Department of Household Economics of Western Reserve University, over which Miss Mary E. Parker presides. Last September, the University opened a department of Household Economics in its College for Women, which has had a very prosperous year. President Thwing of the University will not only give an address of welcome, but will present to us his version of some of the essential principles of Household Economics. He has recently re-written his book on "The Family," which is a valuable contribution to the Household Economics library.

Miss Parker will introduce us to our environment, giving us an account of the year's work in Household Economics in the University. On Thursday, July 2, we shall consider extension work in Household Economics, certain problems in dietaries, and Household Economics in trade and industrial schools. We are hoping to have with us Dr. David Snedden, State Commissioner of Education in Massachusetts, and to have a report of the Lake Placid meeting. Mrs. Albion Fellows Bacon has promised to present to us problems in housing the poor, and Miss Miriam Chadsey of Cleveland, has been invited to speak on her experience with this side of housekeeping. Mrs. Schuyler F. Herron, of Winchester, Massachusetts, is arranging the housekeepers' program for Friday. Dr. Benjamin R. Andrews will present a report

of coöperative buying, and speakers are yet to be secured to present other vital subjects—Doing Your Own Work, and The Efficiency Expert as Visiting Housekeeper.

A morning will be given to Domestic Art, the program being arranged by Miss Craig of Pullman, Washington. The President's address will be given on the evening of July 1.

Excursions will be arranged, and visits made to centers of interest in the city. About ninety members of the Association can be accommodated at the University, and the overflow will be cared for by the Young Women's Christian Association.

Cleveland is a city of big and wholesome interests. Everyone is interested in the "Cleveland experiment," which is bringing about, for the various charitable endeavors of the city, coöperation in giving. Cleveland has done remarkably fine work in its schools of technical arts, and some of its stores have developed fine organizations for instruction in salesmanship.

Come early. Stay through the session. Expect to meet all your friends and have a thoroughly good time. Bring your questions, your plans, your inventions, and your enthusiasm. Let us have the best meeting yet! Come to Cleveland!

June Meeting of the Administrative Section. The Institution Economics Section of the American Home Economics Association will meet at Lake Placid Club, Essex County, New York, June 24 to 27, Wednesday to Saturday inclusive. This Section of the Association appeals to those interested in the larger group problems, and includes among its members lunch room and cafeteria managers, dietitians of hospitals, college dormitory directors, managers of clubs, settlements, tea rooms, etc.; laundry managers; and others whose work lies in directing the housekeeping of institutions.

The program will include subjects related to cafeteria management—equipment, standard measurements, organization, etc; buying and storing of food; unit costs of food in different institutions; problems of waste and garbage disposal; special phases of the laundry problem. Besides these, the question of training for institutional management will be discussed from the viewpoint both of courses offered in colleges, and of opportunities in the field for practice.

The members of this Section deem themselves especially fortunate to be invited to meet again at Lake Placid Club, which offers in itself such a splendid study in the organization of an institution.

Those interested in this Section's meeting, who would like to receive

the preliminary program which will soon be issued, together with information in regard to rates at the Club, etc., may write for information to the Secretary of the Section, Miss Emma H. Gunther, Teachers College, Columbia University, New York City.

Bulletins of the United States Public Health Service. There is a general impression that our government does very little to protect the health of its citizens; that it has more help to offer as to the care of pigs than of babies. As a matter of fact, an immense amount has already been done. Our health has been protected by our quarantine service, the aid of the Government has been sought by the States in epidemics of various sorts, and diseases have been carefully studied. The results of such investigations have reached the people most often through the medium of their own physicians whose training and knowledge were helped by the work. That our government through its various branches, for instance, through the Department of Agriculture, really sends out a great deal of information of direct and indirect effect on the health of human beings is well known to the readers of this Journal. It is less generally known that the United States Public Health Service under the charge of Surgeon General Blue has begun to issue a series of popular publications on health and hygiene designed for general distribution. A copy is sent to anyone who requests it and the publications are also sold by the Superintendent of Documents at a uniform price of 5 cents a copy. The series is designated Public Health Reports Supplements. The titles of these publications as they appear will be found in our bibliography. This is the same department which was known until a year and a half ago as the United States Public Health and Marine Hospital Service. It has done research work of the most fundamental character. Bulletin 56, Milk in its Relation to Public Health is a mine of information on this important topic, and Public Health Reports Supplement 10, The Care of the Baby, should be in the hands of every mother.

Syllabus of Home Economics. We wish to call attention to the advertisement, on the last cover page, and the review on page 301, of the revised edition of the "Syllabus of Home Economics," the first Richards Memorial Fund publication. It is very gratifying to state that the entire first edition was sold before January 1, 1914.

HOUSEKEEPERS' DEPARTMENT

The editors of the JOURNAL earnestly request assistance from the readers of this new department. They especially desire suggestions for timely topics on which information should be gathered; data either given directly or by reference to books and articles; and records of personal observation.

The following report of a coöperative buying club in a town of 22,000 inhabitants is especially interesting for the simplicity of the method which has worked efficiently for nearly two years. Note that although the amount of food distributed was large, no stock was raised, no store or fixtures acquired, no salaries paid and there was no dealing with non-members, also that the price paid by members for the food was the wholesale price plus cost of distribution.

Having already secured the curb market and a sealer of weights and measures, these public-spirited women will doubtless continue until they have established the third object for which they organized—the permanent market house and year-round market. Our readers will be kept informed of the later history of this club.

THE WOMAN'S MARKET CLUB OF GREENSBURG, PENNSYLVANIA

MARTHA B. STECKEL

On August 2, 1912, some public spirited women met for the purpose of effecting means to reduce the high cost of living. Local conditions and needs were discussed, a temporary organization was effected, and a few days later, August 6, the club was permanently organized with a simple constitution and by-laws which stated that "The purpose of this club shall be to secure the best food products at the most reasonable prices; to establish and maintain a successful curb market, and to endeavor to secure and establish a permanent market house and year-round market."

Before the end of the first year there was a membership of 573 which in fees of 25 cents each gave the club a bank account of $143.25. The first year a curb market was maintained in one section of the town two mornings a week, the second year there were two curb markets three mornings a week. From the first, the club put forth every effort to have the commissioners appoint a sealer of weights and measures, but it was not until after the state constitutional amendment was passed making the appointment compulsory that this

appointment was made for the county. There have been car-load purchases of both potatoes and apples. Among other foods bought are cantaloupes, cranberries, celery, nuts of all kinds, sweet potatoes, butter, lard, Georgia cane syrup, oysters, fish, oranges, lemons and grape fruit. Our last addition has been tea, coffee and cocoa.

Country rendered lard in 50 pound cans was 13½ cents per pound the past winter. When butter was selling at 45 cents per pound the club price for the highest grade creamery butter was 32 cents. We now buy 450 pounds of butter daily.

All regular and special buying is done through committees. Four standing committees on fish, oysters, fruit and butter have been doing duty throughout the winter season. It is the duty of each committee to seek out the best markets, to take and place all orders, to fix all prices by adding transportation to cost, to distribute goods at the time appointed, to pay all bills and make reports from time to time when called upon at the regular meetings which take place twice a month. As all officers and committees serve without compensation, every effort is made to spare them unnecessary labor and annoyance. The regular time for placing orders is immediately after club meetings, and not indiscriminately by telephone. Quotations are read in the meetings and arrangements are made to make any special purchase at any time there seems to be a demand.

When distribution is made, the committees are on duty from 8 to 9.30 every morning and any orders remaining uncalled for may be disposed of at that time.

For instance, when a car-load order is taken on potatoes, quotations include cost of sacking to facilitate handling, freight, and drayage. Payment must then be made when the order is placed, and a duplicate of the receipted order goes to the local Transfer Company which attends to the delivery when the car arrives.

The expenses of the club are very light, the monthly average having been $6.69. Through the courtesy of the Board of Trade and the Rink Company, the Market Club has always been provided with a place of meeting without expense other than necessary janitor service. Instead of incurring the expense of maintaining a regular distributing station, the use of a centrally located store room is secured at such times as are necessary. At present a combined candy store and lunch room is used every Friday morning from 8 to 9.30 for a consideration of $1.00.

Butter and either fish or oysters are distributed every week and fruit every other week. When fish is distributed—frequently three or four kinds—a man is employed to sort, weigh and wrap according to the order list. Other expenses include stationery, wrapping paper, newspaper announcements and subscriptions to the *Packer*, both the New York and the Cincinnati editions.

Market Club Recipes

Home Made Vinegar. To 3 gallons of water, add 3 pounds dark brown sugar. Let come to the boiling point, cool and put into a wide mouthed jar. When quite cool put into the jar a large slice of toast with two cakes of Fleischman's yeast spread on one side. Turn spread side down on liquor. Cover tight. When done, the bread will be in the bottom of the jar. Strain and use.

Home Made Baking Powder. Mix and sift together, 1 pound cream of tartar, ½ pound of corn starch, and ½ pound baking soda. Sift several times. Put into tin cans. After two weeks (during which time it is undergoing the sweating process), sift again several times. It is ready for use immediately after the first mixing.

THE NEW ENGLAND COÖPERATIVE SOCIETY

A society has been incorporated under the above title on the plan of the well-known English Rochdale System. As a first step they have taken over four coöperative markets that were established some time ago in Boston. Authorized capital stock is stated as, preferred $175,000, common $25,000. According to their statement, "At present the producers receive 35 per cent of the retail price of food products in this country, the railroads seven per cent, while jobbers, commission men, wholesalers and retailers divide the other 58 per cent."

They propose to reduce the cost of living by purchasing direct from producers in wholesale quantities, eliminating middlemen's profits, selling strictly for cash at one small profit above cost of production and distribution, cutting out the losses and needless expenses of credit business, dividing net profits among members in proportion to their purchases.

This movement is still too new for us to be able to report anything more definite as to its prospects. The names of the promoters are those of men well and widely known in their community.

THE MONTCLAIR COÖPERATIVE SOCIETY

This Society has held its second annual meeting and reports a trade of $30,000 in the closing quarter of the year at an expense of 14 per cent including delivery. The store seems to be making a real contribution to the problem in its novel plan to avoid needless delivery by giving a bonus or rebate on purchases taken home by the buyer.

The Society did not pay dividends on stock because of heavy losses the first of the year from incompetent management; they have not found any "short cut through a bed of roses" but the interest and enthusiasm of members remain unabated as shown by the large attendance at the annual meeting. They feel that they have found the solution of the problems of pure food and the high cost of living.

BUSINESS MANAGEMENT IN THE HOME

MILDRED N. BALL

Can the principles of ordinary business management be successfully applied to the finances of the home? Any satisfactory answer to this question must come from the housekeepers themselves, and not from the theorists. But how many practical housekeepers have seriously and intelligently tried business methods in handling household money?

Will women undertake this practical business side of home-making and discover what can and what cannot be accomplished? Or will it all finally have to be worked out by men? The home, like any other business organization, must stand on a firm financial foundation if it is to be operated successfully. Man has long considered the provision of a family income his absolute duty when he marries. Woman should just as conscientiously feel it her duty to wisely and economically administer this income. To do this she must evolve some systematic plan of handling the money.

Some housekeepers do this in a simple way by allowing definite amounts for household expenses, dress, miscellaneous expenses, etc. It is easier to make this allowance with accuracy if these broad headings are subdivided and a simple budget arranged.

A convenient classification for family expenditures is as follows: shelter, food, equipment, operation, clothing, incidentals and advance-

ment. By shelter is meant the house rent or interest on the house that is unpaid for. By equipment is meant the furniture, fixtures and apparatus required in the home. Operation includes heat, light and service. Incidentals provides a column for those miscellaneous expenses which belong under none of the other heads. Advancement stands for all that the word means and under it we place educational expenses, books, magazines, lectures, travel, charities, church expenses, etc.

For those who object to the filing system, a simple method of keeping accounts is to obtain a large account book, use two pages which face each other and rule on the right side of the first page four columns for: food, equipment, operation and shelter. Subdivide the food column into three—groceries, meat and dairy. On the opposite page rule three columns for clothing, incidentals and advancement. Clothing may be subdivided into a column for each member of the family.

The first item in the food account each month is inventory—that is, an inventory of food supplies on hand at the first of the month.

At the end of each quarter and half year a comparison of the actual expenses and the allowance according to the budget should be made so that one may know if she is living in accordance with the allowance planned. In order to have budget making sufficiently accurate to be valuable, one needs carefully kept accounts of the previous year for comparison. A careful study of the accounts assists in making the next year's budget. If too much or too little has been allowed, or if circumstances call for closer economy, or if income permits larger expenditures, budget and accounts show just where the change can easily be made.

Any housekeeper who has not tried keeping a budget and accounts will be delighted at the feeling of security it gives. There is so much less worry and anxiety as the expensive seasons of spring and fall approach, when summer and winter clothing for the family must be purchased, if one knows that a certain amount has been set aside for that expense and that in buying up to that limit the grocery and meat bills are not threatened.

Having once used a budget and kept systematic accounts, no housekeeper will ever think them too much trouble. The joy of feeling that she is controlling the finances of the household and that they are not controlling her is a sufficient reward for any woman for all the time and effort expended.

THE FAMILY BUDGET[1]

The comparison of many budgets, in such studies as those of the United States Bureau of Labor[2] and the volumes of Chapin,[3] and Ellen H. Richards[4] gives information and suggestion concerning standards and appropriate expenditures for the essential items of shelter, food, clothing, health protection, and sundries. Thus:

An expenditure of from $600 to $700 a year provides the typical family of two adults and not more than three children only inadequate shelter and clothing and a mere approach to adequate nutrition; they must depend upon public aid for health protection and recreation.

From $800 to $900 a year, adequate in some European countries, is scarcely so in the United States.

A family budget of from $900 to $1000 a year will provide physical necessities in New York City, including fair shelter and clothing, something for health protection and recreation, and food that is adequate, when measured by the accepted minimum of 23 cents a day for each adult.

At $1100 a year savings begin to be appreciable, the cost of women's clothing begins to exceed that of men, and, in the country, comforts become possible.

A $2000 budget has been ideally divided into 25 per cent for food, 20 per cent each for rent and clothing, 15 per cent for operating expenses, and 20 per cent for "the higher life."

In budgets of from $2000 to $4000 a year, 25 per cent is assigned for food, 20 per cent for rent, 15 per cent each for clothing and operating expenses, and 25 per cent for "the higher life."

An expenditure of $4000 a year shows operating expenses of 17 per cent and clothing of 12 per cent.

As incomes increase, the proportion spent for shelter remains constant, food decreases, clothing increases, and furnishing and sundries increase rapidly, all according to the general laws of Engel, somewhat modified for the United States.

[1] Reprinted from Household Management. Mary L. Furst, Teachers College Bul., No. 8.

[2] Retail Prices (and Budgets). U. S. Dept. Com. and Labor, Bur. Labor Buls. 105, pt. 1, 1912; 106, pt. 1, 1912; 108, 1912; U. S. Dept. Labor, Bur. Labor Buls. 110, 1913; 125, 1913; 132, 1913; 136, 1913.

[3] The Standard of Living among Workingmen's Families in New York. Chapin. Charities Publication Committee, New York, 1909.

[4] The Cost of Living as Modified by Sanitary Service. Ellen H. Richards. J. Wiley and Sons, New York, 1899.

The maintenance of standards, however, depends less upon income than upon a wise expenditure. Inadequate food, for example, is often due largely to lack of wisdom in selection and purchasing. Saving, on the other hand, denotes self-control, imagination, resourcefulness, and character, both in individuals and in nations.

The ideal standard is influenced by environment, imitation, tradition, habit, and by other considerations, not only of utility and of custom, but of emulation and display in "conspicuous consumption" and "conspicuous waste."

Both standards and expenditures may be tested by estimates of adequacy, comfort, and richness of life.

Household Accounts and Division of Income[1]

There is no hope for any plan for keeping household accounts that requires a large amount of time. Here is one that calls for fifteen minutes a week. It claims to have been put to the test of use, and with perfect success. It also suggests that division of the income which is more and more coming into general use.

TABLE A

Weekly income, weekly divided into three bank accounts

1	2	3
Man's personal account.	Woman's personal account.	Family account in the name of both.

TABLE B

Weekly amount put in each division

1	2	3
Equal to the woman's.	Equal to the man's.	The remainder.

Illustration I. Supposed income—$25.00

1	2	3
$3.00	$3.00	$19.00

Illustration II

1	2	3
$5.00	$5.00	$15.00

TABLE C

Uses

1. Clothes, carfare, charity, amusements, society dues, ordinary dentist and doctor bills, etc.

2. In general, the same. Exception, doctor's bills in maternity.

3. No money is spent from this account without mutual consent.

First, a stated weekly sum is given the wife for food expenses. On $5 she can provide for them both, and also the friend who drops in, and pay for other grocery items, matches, soap and kerosene.

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[1] Philadelphia Sunday *North American*, January 19, 1913.

She also is the arbiter of other household expenses, under a stated sum. Articles costing more than this should be agreed upon mutually.

After these expenses and the rent, laundry, gas and coal are paid for, the remainder constitutes the mutual savings, belonging equally to both.

When the children come, another stated sum is set aside for their clothes, etc. Thus the woman has two account books to keep—"food" and "children." They may be simply kept, without detail. The use of different purses for different accounts, "food," "children," "personal," is really no trouble, and wholly simplifies the account keeping.

When the man or the woman has a special personal expense the private account cannot afford, but the mutual account (No. 3) can afford, the one may draw the needed sum, provided at the same time a like amount is drawn and deposited in the private account of the other.

Should the wife earn any money, as the simplest way of equal division also on her part, it would be deposited in account No. 3.

POINTS IN EFFICIENCY[1]

CHRISTINE FREDERICK

In order to standardize any task we must first separate it into its component elements. For instance, in cleaning take the sweeping, dusting, and mopping. How are these done in the average home? One room is swept, dusted and mopped, and these processes repeated afterward in each room. In any task requiring a bodily adjustment you must keep that adjustment as long as possible in order to acquire speed. Every time you change your adjustment from sweeping to dusting you lose time; and you lose time whenever you pick up and lay down a broom, a duster, or a pail. The efficiency method then, where there are a number of processes to be repeated in several rooms, is to do the one process as long as possible.

To prove this in figures, three rooms averaging 10 by 12 in size were cleaned in respectively 13, 15 and 16 minutes, doing the various processes in each room separately. These same rooms were cleaned, doing each process straight through, in 11, 12 and 13 minutes, with a total of 36 as against 44, or a gain of 8 minutes. In the first place there was a handling and picking up of the broom and other utensils three times; in the second place, once.

It is difficult to say just how dish-washing can be standardized, but it can be separated into its elements, which include stacking, sorting, washing, drying, and laying away. The wiping usually takes too long,

[1] Extracts from an address given at the Sixth Annual Meeting of the American Home Economics Association, Ithaca, 1913.

but a drainer will minimize the time. In order to lessen the steps taken to lay away the dishes, you may have shelves conveniently placed.

Every cooking task on final analysis can be divided into three distinct parts—the grouping of materials and utensils for the work, the preparation of the food, the clearing away.

From various experiments done over and again we find that the variables on which we can increase our efficiency are in the first and last groups. It is simply impossible to beat an egg in less than a certain given time with a given egg beater or particular device, but, if you can increase your efficiency in your grouping and laying away your tools, you have increased the total efficiency of making your sponge cake.

We have found the causes of inefficiency in a great many household tasks to be: lack of needful utensils; wasted time running around for utensils; wasted effort and time in bringing the various ingredients; stopping in the middle of a task to do something entirely unrelated to it; loss of time due to insufficient supplies on hand; and incorrect position or height of stool or other working surface. An examination of 75 sinks, both in apartments and private homes, showed that they averaged from 27 to 32 inches in height, and 20 girls were tested with an adjustable table, raising and lowering the dish pan until the height was found which required the least effort in doing their work. There seemed to be a distinct ratio between the height of the person and the height of the working surface. For a person 4 feet 10 inches tall the table should be 27 inches high, with an increase of about 2 inches on the table for 4 inches on the person.

We all know that the small kitchen is the efficient one, but there is also a scientific reason for the arrangement of equipment in the kitchen. When analyzed, all kitchen work is resolved into two distinct processes, preparing food and clearing it away. In preparing food the storage is our first piece of equipment, the table the second piece, the stove the third; and then the food is taken to the dining room. All of these steps are included in the first preparing group. The clearing away process involves the use of the sink, the pantry and the shelves. The parts of these processes should be kept separate, and the storage, table, stove, dining room, sink and shelves should be so arranged as to avoid unnecessary retracing of steps. That which counts most is not the skill with which any one particular task is done, but the skill with which that task is done in relation to other tasks.

The other object of our standardizing task is to find the approximate average time it takes to do the tasks that come into our daily routine. We must get the work down to a schedule if we are going to have time to do anything else. You must work out for yourself schedules which vary, of course, with varying conditions. Every well-planned schedule has a definite rest period. It is not efficiency to work until you drop; many of our housekeepers see only the tread mill of work, and think that the more work they do the more efficient they are.

In running the home there are many different kinds of data and records; there are the gas receipts, the rent bills and milk bills, and it is always a question of where to turn for this address, or this bill, etc. A file for all these is most satisfactory because it is a unit idea, and it is capable of infinite expansion. You can make special headings for it according to your special needs.

We have a feeling that the servant problem is vital; it is, but not so vital as the problem of the young married woman who perhaps is a trained worker in some other line, but does not know the first principles of home making and housekeeping, and has no money for a servant.

Our greatest enemy is the woman with the career. When she is a housekeeper, she feels that she is weighted down; or she has an automatic, dull sort of duty toward housework in general. The intelligent attitude of mind is that home making is not drudgery; that home making is a big business, and that it is just as interesting and just as stimulating to make a splendid cake on a schedule as it is to pound a typewriter all day for nine dollars a week; that home making is just as stimulating and just as cultural as work in art or in any of the fields in which women are running with eager feet because it expresses their wonderful individuality. Let such a woman come into the home and express her art through its decoration, its furnishings, and its color schemes; or instead of going into a narrow field of dietetics, let her come into her home and there plan balanced menus and study nutrition values for her own family. Let her find it just as interesting to care for her own children as it is to go down on the east side and take care of Annie Bolowski.

We have talked very much about schedules and standardizing work, and about efficient workers, but this is not the whole result of efficiency. The object of your work is not so many cakes, not so much information on this line or that, not so much testing, but it is the home and the happiness and success of that home.

TREATMENT OF HOUSEHOLD WASTE

H. T. Vulté

Waste or refuse may be defined as material of little intrinsic value for which we have no further use. This is a sad confession of a lack of efficiency along economic lines which usually leads to results that are highly deleterious and dangerous to health. There is no more serious problem now before us than the economic and sanitary disposal of this material.

It is best to classify waste materials under liquid and solid, and to deal separately with each class and its various subdivisions. Liquid waste containing more or less putrescible matter is now generally classified as sewage. As a rule sewage is collected by a system of piping and delivered at some central point where it is cast loose in a stream or body of water to plague the existence of helpless individuals in a more or less remote locality.

At times the dwellers in isolated regions carefully conduct the material into a specially constructed underground pit or cesspool whence it flows by gravity or is drawn into the water supply. Sanitary sewage disposal should be compulsory in every community having a water supply.

For isolated localities, accessible cesspools built of impervious materials can be provided and after the putrefying period has passed, the liquid product may be conducted through a series of drain pipes to irrigate and fertilize growing crops.

The most serious difficulty experienced with waste and drain pipes is due to fatty matter cooling and depositing on the walls. Various devices known as grease traps may be used to cool and solidify the fats, but the simple precaution of cooling all fatty liquid, and removing the cake or crust of congealed fats before pouring away the liquid, would obviate any such stoppage and furnish clean, pure, fatty matter for sale or domestic use.

Solid waste is best divided into putrescible and non-putrescible matter. The former includes inedible trimmings of fruits, vegetables and other foods and various articles of food no longer desired in the household. If this can be kept in clean, cool receptacles and frequently collected, it serves as an excellent food for animals. In any case, by drying to a moisture content of 25 per cent or less, all immediate danger of change will pass. Perhaps it is best to dry the material in small

quantities by the surplus heat of the cook stove or range and then burn it when most convenient.

The non-putrescible matter consists of combustible material such as paper, straw and the like and non-combustible substances, such as ashes, broken glass and crockery, metals and tin cans. Newspaper and wrapping paper may be sold. Ashes, broken glass and clean cans are valuable filling material in most communities and have been successfully used for many years in raising the level of low lands. Metals of all kinds are salable as junk. It is little short of criminal to mix these waste materials as advocated by some authorities and practiced in many communities.

It may be said that dwellers in city apartments cannot, with their limited space, afford the necessary storage room for keeping waste materials separated. There is no reason, however, why the owner or manager of such apartment building should not provide the necessary space in the basement and put its management in charge of some competent person. This would add very little to the present duties of the janitor and he would be paid by the disposal of such material as is salable. The management might even provide a small cremating furnace for combustible matter.

Some of our largest cities strictly enforce ordinances applying to the collection of refuse materials but signally fail in their proper and economic disposal; while others, too few in number, actually make the collection and disposal self-supporting. After all it is a question which directly affects the tax-payer. For lack of system, he pays dearly; with common sense planning and administration, the draft on his income would be greatly reduced.

It must be borne in mind that many of our important industries were in a precarious condition years ago on account of their utter indifference as to the so-called waste products. As a result of study and careful planning and operation, these wastes have been converted into useful merchantable forms and have added to the profits of the whole operation, while greatly improving the sanitary conditions.

Is it too much to hope that equally beneficial results may be obtained from educating the householder along these lines?

OVEN TEMPERATURES[1]

The greatest claim that can be made for the subject of cookery is that we are trying to approach it scientifically. This means the standardization of processes formerly evolved by long experience and much wasteful experimentation, and accomplished only through the sacrifice of much good food material. The question with which teachers of cookery are confronted today is: how can the expert best pass along her information in trying to instruct the person who must become proficient in a comparatively short space of time?

The need for standardization of cookery temperatures is evident from the variations in the rules of experts, the vagueness of directions in the best cook books in everyday use, and the evident lack of agreement on the meaning of the terms "slow," "medium," "hot," as applied to oven temperatures.

The following *Directions for Cooking* were gleaned from some of the leading cook books in daily use: "Bake until thoroughly done." "Bake until brown and crisp on the surface." "Roast in a hotter oven than for fowl." "Bake one hour or more." "Bake until done, the time depending upon the thickness."

In lieu of a thermometer the indicators generally used are sensation, counting, color changes in various kinds of paper, etc. The inadequacy of these methods was proved by tests made in the laboratory.

A number of students combining the first and second methods by holding the hand in the oven, showed a range of from 20 to 100 counts in an oven at a temperature of 250° F. and 5 to 30 counts at 450° F.

Using the third method, the recorded temperatures at which a certain paper would brown varied from 376° to 463° F. When cakes were baked in a "moderate" oven a thermometer showed that the girls who had depended only upon the "sensation indicator" were using temperatures from 145° to 420° F.

A careful study of temperatures which yielded the best results with certain recipes gave the following classification: slow, 250° to 350° F., custards, meringues; moderate, 350° to 400° F., bread, gingerbread, plain cake, cookies; hot or "quick," 400° to 450° F., Parker House rolls, popovers; very hot, 450° to 550° F., biscuit, pastry. The best temperature for sponge cake and angel food was between slow and moderate, and for baking powder biscuit, between hot and very hot.

[1] Compiled from Standardizing Oven Temperatures. May B. Van Arsdale, Teachers College Bul., Ser. 5, No. 8.

The objection will be raised that the use of a thermometer in cookery, is not practical for the housewife, but it is evident that her own temperature sensations are not to be relied upon. Even the oven-door thermometer, although it does not record the exact oven temperature, may be sufficient after she has experimented to find the figure for the best results.

Regarding the inexperienced housewife it can truly be said that with an accurate thermometer her results would undoubtedly be more uniformly good; and we believe that the recipe books of the future should not read merely "bake until done" in a "moderate oven" "according to judgment," but will also state how long and at what temperature, so that in the hands of even the inexperienced these recipes will yield not occasionally good, but uniformly good results without the discouragement of many failures, the sacrifice of much time and the waste of good material. Thus the scientific treatment of the subject added to our traditional knowledge should tend to evolve a higher type of cookery than we have had in the past.

JELLY MAKING

The discouraged housewife at the end of a hot summer day wonders why her jelly did not "jell," why it is soft, or gummy, or lumpy. Or, if successful one day, she probably fails to record the exact time, amounts of materials, etc., that will insure uniform results for the future. She may not know that jelly "jells" because of the presence of a substance called pectin, that it is often absent in raw fruit but present after boiling; that a certain amount of it can utilize only a certain amount of sugar, and that if increased beyond that definite amount, continued cooking will produce only a gummy mass; or that too little or too much boiling after sugar is added to the juice may cause the sugar to crystallize.

She may easily make her own test for pectin by adding to the fruit juice an equal volume of grain alcohol. A gelatinous mass shows the presence of pectin. She may be sure of uniform success if she makes use of facts obtained in laboratory experiments such as were conducted and reported by Miss Goldthwaite of the University of Illinois. Extracts from her report[1] are here given.

To very juicy fruit, such as raspberries, currants, etc., add 1 cupful of water to 4 or 5 cupfuls of fruit and allow to cook slowly in an enam-

[1]Principles of Jelly Making. N. E. Goldthwaite, University of Illinois Bul., IX, 1912, No. 36.

elled kettle. When simmering, crush the fruit and when well cooked transfer to cheesecloth and allow to drain, but do not squeeze. One or two more extractions may be made by returning pulp to kettle, adding water, and boiling, the number of extractions depending upon the pectin present. Proceed in the same way with less juicy fruits, such as apple, quince, etc., but cover with water before cooking. The first extraction should be treated by itself. The correct proportion of juice to sugar varies from $\frac{3}{4}$:1 to 1:1 by volume. Currants and partially ripened grapes demand 1:1, while $\frac{3}{4}$:1 is better for raspberries, blackberries, apples, cranberries, etc. The condition of the fruit may necessitate a change in these proportions. When in doubt it is better to err on the side of too little rather than too much unless a soft jelly is desired.

If the second and third extractions are boiled down until they show about the same proportion of pectin as the first extraction contained and then treated in the same way, there is no need for any second class jelly.

For all extractions, boil the juice and skim before adding the sugar (preferably hot), and continue to boil about the same length of time afterward. Jelly should be made from the extractions as quickly as possible. The juices mentioned before as requiring the greater proportion of sugar need to be boiled only from eight to ten minutes; the others from twenty to thirty minutes. Long simmering of pectin in acid changes it to substances which have no jelly-making power.

The best test, and one which does not cause delay, in determining when the jelly has boiled sufficiently is to see whether the boiling mass breaks off or sheets off as a portion drops from the stirring spoon.

Other conclusions were reached, such as the following: Jellies from but slightly acid fruits may be made by adding a teaspoonful of acid powder (citric or tartaric) to a quart of the juice, but this process is not recommended except in the case of sweet apple or quince juices. The white inner skins of oranges and of lemons are prolific sources of pectin, hence genuine jellies from these fruits may be made. The pectin from these skins may also be used for strengthening other fruit juices. Apple-juice may be made a basis for other fruit-jellies. Beet-sugar and cane-sugar may be used interchangeably in jelly-making.

Good jellies cannot be made from all juices by rule o' thumb. Jelly-making as practiced in the home is an art—an art founded on scientific principles. It consists in so controlling conditions by means of sugar (and acid), and by boiling, as to cause the pectin to "set" in a continuous mass throughout the volume allotted to it.

THE FEEDING OF YOUNG CHILDREN[1]

(Continued from the April JOURNAL, pp. 179–181)

Child 4–8 years old

Breakfast:	Oatmeal Mush	1½ oz. dry cereal
	Top Milk	4 oz.
	Stewed Prunes	4 or 5
	Toast	1 slice
	Milk to drink	6 oz.
Dinner:	Pea Soup	1 cup
	Croutons	1 slice bread
	Boiled Onions	2 small
	Baked Potato	1 large
	Molasses Cookies	2
Supper:	Cream Toast	2 slices bread
	Rice Pudding with Milk and Sugar	1 cup
	Milk to drink	5 oz.

Nutritive value and cost

MATERIAL	WEIGHT	PROTEIN	FUEL VALUE	COST
	ounces	*grams*	*calories*	$
Rolled oats	1.3	6.1	150	0.0045
Prunes	1.3	0.7	100	0.0100
Milk	34.4 (1 qt.)	32.2	675	0.0900
Bread	3.0	10.5	300	0.0120
Peas—split	1.0	6.9	100	0.0056
Onions	4.0	2.0	56	0.0120
Sugar	1.0	6.9	115	0.0046
Potato	5.0	2.5	96	0.0078
Cookies	1.0	2.0	100	0.0040
Rice	1.0	2.3	100	0.0050
Butter	0.5	0.1	100	0.0110
		65.4	1892	0.1545

Substitutes or additions

For Rolled Oats: Other cereals, as suggested on page 181 of the April JOURNAL.

For Onions and Peas: Strained dried beans; other vegetables carefully cooked; fresh lettuce.

For Prunes: Fresh ripe apples, baked bananas, other mild fruits well cooked.

For Rice Pudding: Junkets, custards, blanc manges, bread puddings, and other very simple desserts.

For Cookies: Gingerbread, sponge cake, or very plain cookies.

[1] Extracts from The Feeding of Young Children. Mary Swartz Rose, Teachers College Bulletin, Ser. 2, No. 10. The prices have been revised to date.

Child 8–12 years old

Breakfast:	Oatmeal Mush	1½ oz. dry cereal
	Top Milk	6 oz.
	Stewed Prunes	6 or 7
	Toast	2 slices
	Milk to drink	6 oz.
Luncheon	Pea Soup	1 cup
	Boiled Onions	2 small
	Baked Potato	1 large
	Bread and Butter	2 slices bread
	Molasses Cookies	3 cookies
Dinner:	Baked Haddock	Small serving
	Creamed hashed potato	¾ cup
	Spinach	½ cup
	Bread and Butter	2 slices
	Rice Pudding—milk and sugar	1 cup

Nutritive value and cost

MATERIAL	WEIGHT	PROTEIN	FUEL VALUE	COST
	ounces	*grams*	*calories*	$
Rolled oats	1.5	6.1	150	0.0060
Prunes	2.0	1.0	150	0.0150
Milk	34.4	32.2	675	0.0900
Bread	6.0	15.6	440	0.0246
Butter	1.0	0.3	200	0.0220
Peas—split	1.0	7.0	100	0.0056
Onions	4.0	2.0	56	0.0120
Sugar	1.0		115	0.0036
Potatoes	8.0	4.0	152	0.0122
Cookies	1.5	3.0	150	0.0060
Rice	1.5	3.4	150	0.0075
Haddock	2.0	10.5	68	0.0050
Spinach	2.0	1.2	14	0.0015
		86.4	2420	0.2110

Substitutes or additions

For Rolled Oats: Other cereals thoroughly cooked.

For Haddock: Rare beefsteak, roast beef or mutton chops; other fish, especially white varieties.

For Prunes: Any mild ripe fruit uncooked or cooked.

For Onions: String beans, stewed celery, beets, squash.

For Peas or Spinach: Turnips or cauliflower.

SUGGESTIVE DIETARY FOR CHILD WHO WILL NOT DRINK MILK

Age 5 years

(1 Quart of milk concealed in the ménu.)

Breakfast: 7.00 a.m.	Oatmeal	¼ cup cereal cooked in 1 cup milk
	Creamy egg on Toast	1 egg yolk with ½ slice bread and ¼ cup milk
	Cocoa	1 tsp. cocoa and ¼ cup milk
10.00 a.m.	Zwiebach and Cream	1 piece zwiebach and 1 tbsp. cream
1.30 p.m.	Spinach Soup	4 oz.
	Baked Potato with cream	1 potato and 2 tbsp. cream
	Bread and Butter	1 slice
	Caramel Junket	1½ cup
5.30 p.m.	Rice and Prunes	2 tbsp. rice cooked in ½ cup milk and 5 prunes
	Zwiebach	1 slice

Nutritive value and cost

MATERIAL	WEIGHT	PROTEIN	FUEL VALUE	COST
	ounces	*grams*	*calories*	$
Oatmeal	0.9	4.2	100	0.0030
Egg yolk	0.5	2.0	47	0.0150
Cocoa	0.1	0.5	11	0.0025
Zwiebach	0.8	2.3	100	0.0145
Toast	0.7	1.8	50	0.0027
Spinach soup	4.2	3.9	100	0.0162
Potato	4.0	2.0	75	0.0060
Rice	1.0	2.3	100	0.0050
Prunes	1.3	0.7	100	0.0100
Milk	34.2	32.2	675	0.0900
Sugar	0.4		40	0.0013
Butter	0.2		33	0.0036
		51.9	1431	0.1698

BOILED MILK

Certain milk standards have been agreed upon by the National Commission on Milk Standards[1] and the International Milk Dealers Association. Their efforts to raise the standards of milk and to get individual communities to require those standards are certainly to be

[1]U. S. Public Health Reports, 28, 1913, no. 34, pp. 1733–1756.

commended and yet their chief measure of safety, pasteurization, is at present a debatable question.

There is little doubt that keeping milk at 60° to 65°C. for twenty to thirty minutes destroys all pathological bacteria, but those which cause putrefaction remain. These cause pasteurized milk to decompose, a change which has been noticed by the housewife who has discovered the bad odor of milk which is not sour but has not been kept on ice after pasteurization. Experimenters have not agreed as to whether any lactic ferments may remain or as to whether the gentle heating causes a change from a substance which clots to one which putrefies.

It would seem wiser to boil the milk, but this suggestion has met with much opposition by those who claim that boiling destroys immunizing substances, and substances helpful to digestion, and that boiled milk causes constipation. The first claim is absurd, for if the cow's milk contained any immunizing substances it would not be effective in the human system. As to the second, it is probable that the substances referred to as aiding digestion or nutrition do not exist in pure milk but are derived from bacteria. Experience in Germany and Austria, where boiled milk is the rule rather than the exception, shows that the effect referred to in the third claim is negligible. In the feeding of children it is found that curds do not occur in the intestines if boiled milk is used and that any constipating effects would be negligible as compared with the intestinal diseases arising from raw milk.

While specialists are working on these open questions it would be well for those who are not sure of the purity of their raw milk supply to take the following precautions:

Insist upon careful inspection of pasteurization in the dairy, for although laboratory pasteurization may make milk perfectly safe, commercial pasteurization may often be carelessly done and may lead to serious results because the consumer is deceived. Keep the pasteurized milk on or near ice. Finally, as a last resort and an absolute safeguard, boil the milk. This insures perfect sterility, for it destroys lactic, pathological, and all other organisms so that even the putrefaction which takes place in properly pasteurized milk need not be feared.

EFFECT OF COLD STORAGE

Fish can be kept for two years in cold storage without any depreciation in its nutritive value, any change in its sanitary character, or any diminution of its culinary virtues or its palatability. This is the very comprehensive and hopeful report made by chemists of the College of Physicians and Surgeons in New York City.[1] Note, however, that there is nothing in the statement which gives a clean bill to all cold storage fish. All depends upon the condition of the fish at the beginning and the efficiency of the method. The cold storage process of food preservation when of the right kind and rightly applied is a boon to the housekeeper. It is only when the process is misused, either ignorantly or unscrupulously, that harm results.

PRESERVATION OF EGGS

When eggs reach their fabulous winter prices it would be gratifying to be able to depend upon a home supply which had been stored during the summer. That every home may have such a supply and find the eggs very palatable after a period of several months has been proved by experiments conducted at various agricultural experiment stations.

The preserving preparation recommended in a government bulletin[2] consists of one part of syrup-thick pure water glass dissolved in ten parts, by volume, of cooled boiled water. This is to be poured over clean (but not washed) eggs which are packed in a clean vessel. One gallon of water glass will make sufficient solution for 50 dozen eggs if properly packed.

A SOCIAL NEED

In a certain primary school in New York attended by 1420 children under twelve years of age, it was found that 758 did the family marketing and that in 307 of the families represented the mothers went out all day to work.

But in this school there were no cooking classes in which the teachers could help these little mothers to buy wisely and to cook a few nutritious dishes. This suggests that it would be well for any one interested in public welfare to inquire into such conditions.

[1] W. A. Perlzweig and W. J. Gies: A Further Study of the Chemical Composition and Nutritive Value of Fish Subjected to Prolonged Periods of Cold Storage, *Biochemical Bulletin*, III, 1913, No. 9, pp. 67–71.

[2] U. S. Dept. Agr., Office Expt. Stas., Farmer's Bul. 128. Eggs and Their Uses as Food.

BIBLIOGRAPHY FOR HOME ECONOMICS LITERATURE

Food

Rice and Rice Cookery. Miriam Birdseye, Cornell Reading Course for the Farm Home, iii, 1914, no. 55, pp. 86–103, figs. 10.

Vegetables—Food Value and Preparation. Elizabeth Johnson and Mary Edmonds, *Ohio Agric. Coll. Extension Bul.*, vii, 1912, no. 10, pp. 16, figs. 8.

Cacao in Commerce. *Philippine Agr. Rev.*, vii, 1914, no. 1, pp. 19–26.

Banana Recipes. O. W. Barrett, *Philippine Agr. Rev.* [English Ed.], vi, 1913, no. 9, pp. 451, 452. (Recipes are given for preparing banana and plantain for the table.)

Fish Roe as Human Food. J. König and J. Grossfeld, *Biochem. Ztschr.*, liv, 1913, nos. 2–6, pp. 351–394, pls. 2, fig. 1. *Abs. Expt. Sta. Record*, xxx, 1914, no. 1, p. 61.

Fish Milt as Human Food. J. König and J. Grossfeld, *Biochem. Ztschr.*, liv, 1913, nos. 5–6, pp. 333–350. *Abs. Expt. Sta. Record*, xxx, 1914, no. 1, p. 51.

The Aitch Bone: Why It is an Economical Investment for a Large Family. Ida C. Bailey-Allen, *Country Gentleman*, lxxix, 1914, no. 9, p. 459. (A number of methods of cooking and using this cut are given.)

Beef Meal. *Pure Products*, ix, 1913, no. 8, p. 405.

Food Products: Bread. J. P. Street, *Conn. Agr. Expt. Sta.*, 1913, Part I, Sec. 2.

Making Bread in Different Parts of the World. *Nat. Geogr. Mag.*, xix, 1908, no. 3, pp. 165–179. (A series of illustrations.)

The Grinding of Corn Meal for Bread. F. P. Dunnington, *Alumni Bul. Univ. Va.*, 3, ser., vi, 1913, no. 4, pp. 521–532.

Corn Meal as a Food and Ways of Using it. C. F. Langworthy and Caroline L. Hunt. *U. S. Dept. Agr. Farmers Bul.*, no. 565, 1914, pp. 24.

Composition and Nutritive Value of "Taralli," a Special Bread made in Naples. A. Cutolo, *Bol. Soc. Nat. Napoli*, 2. ser. xxiv, 1910, pp. 158–164. *Abs. Expt. Sta. Record*, 30, 1914, no. 1, p. 62.

A Special Flask for the Rapid Determination of Water in Flour and Meal. John H. Cox. *U. S. Dept. Agr. Bul.*, no. 56, 1914, pp. 7, figs. 7.

Studies on the Fermentation of Bread, A. J. J. Vandevelde et al. *Rev. Gen. Chim.*, xvi, 1913, nos. 4, pp. 53–61; 5, pp. 86–95; 7, pp. 128–130; 8, pp. 136–141. *Abs. Expt. Sta. Record*, 29, 1913–14, no. 9, p. 864.

The Expensive Sandwich. Editorial, *Jour. Am. Med. Assn.*, lxii, 1914, no. 10, p. 781.

The Vitamines of Food. *Nature*, March 12, 1914, p. 41.

Studies on the Factors affecting the Culinary Quality of Potatoes. O. Butler, F. B. Morrison, and F. E. Boll, *Jour. Amer. Soc. Agron.*, v, 1913, no. 1, pp. 1–33, figs. 4.

Nutrition

Proteins and Nutrition. Editorial, *Jour. Amer. Med. Assn.*, lxii, 1914, no. 6, p. 458.

The Availability of Nutrients from Plant Sources. Editorial, *Jour. Am. Med. Assn.*, lxii, 1914, no. 5, pp. 380, 381.

Some Extremes in Nutrition. Editorial, *Jour. Am. Med. Assn.*, lxii, 1914, no. 10, p. 780. (Notes on the diet of Eskimos and others.)

Amino Acids in Nutrition and Growth. T. B. Osborne and L. B. Mendel, *Jour. Biol. Chem.*, xvii, 1914, no. 3, pp. 325–350.

Utilization of the Proteins of Cottonseed by Man. J. B. Rather, *Jour. Am. Chem. Soc.*, xxxvi, 1914, no. 3, pp. 584–586. (Abstracts from *Texas Agr. Expt. Sta. Bul. 163*, pp. 26.)

The Influence of Codliver Oil and Some Other Fats on Growth. T. B. Osborne and L. B. Mendel. *Jour. Biol. Chem.*, xvii, 1914, no. 3, pp. 401–408.

Some Abnormalities in Breast Milk and Their Treatment. Hugh H. Riddle, M.D. *The Hospital World*, 1914, March, p. 181.

A Study of the Nutritive Value of Some Proprietary Infant Foods. Ruth Wheeler and Alice Biester, *Am. Jour. Dis. Child.*, vii, 1914, no. 3, pp. 169–183.

Food Requirements of Infants. E. Pritchard, *Brit. Jour. Child. Dis.*, xi, 1914, no. 122, p. 49.

Infant Feeding from a New Viewpoint. G. R. Pisek, *N. Y. State Jour. Med.*, xiv, 1914, no. 1, pp. 34–36.

Measured Feeding for Older Children. W. R. P. Emerson, *Boston Med. and Surg. Jour.*, clxx, 1914, no. 3, pp. 80–85.

Menus for Boys from Fourteen to Sixteen Years Old. *Boston Cooking School Mag.*, xviii, 1914, no. 1, pp. 42–44.

Malnutrition in School Children—a Clinical Report. B. I. Wyatt, *Chicago Med. Recorder*, xxxv, 1913, no. 5, pp. 282, 283.

History of the Growth of the Elementary School Lunch Movement. *McClure's Mag.*, xli, 1913, October, pp. 120–128.

Importance of Suitable Meals and Dietary in Higher Education. *Jour. State Med.*, xxi, 1913, no. 5, pp. 290–297.

Luncheon for Women Clerks Employed in the Bank of England. E. M. Harvey, *Minutes of Evidence taken before the Royal Commission on the Civil Service, April 10–25, 1913, with Appendices.* London Government, 1913, p. 95.

A Digestion Experiment with Banana Meal. Kakizawa, *Arch. Hyg.*, lxxx, 1913, no. 7–8, pp. 302–309. *Abs. Expt. Sta. Record*, xxx, 1914, no. 1, p. 62.

What Becomes of the Protein Digestion Products. Editorial, *Jour. Am. Med. Assn.*, lxii, 1914, no. 4, p. 303.

Contributions to the Physiology of the Stomach, XIII. The Variations in the Hunger Contractions of the Empty Stomach with Age. T. L. Patterson, *Am. Jour. Physiol.*, xxxiii, 1914, no. 3, pp. 423–429.

Hyperacidity of the Stomach. A. Schmidt, *Jour. Am. Med. Assn.*, lxii, 1914, no. 6, pp. 430–433.

Some Points in the Treatment of Hyperacidity, Especially with Reference to the use of Hydrogen Dioxid. C. H. Neilson, *Jour. Am. Med. Assn.*, lxii, 1914, no. 6, pp. 434–436,

Hygiene and Sanitation

The Care of the Baby. Prepared by a committee of the American Association for the Study and Prevention of Infant Mortality. *Pub. Health Rpts.* [U. S.], 1913 sup. 10, pp. 14.

Vacuum Cleaning. M. S. Cooley, *Heat. and Vent. Mag.*, ix, 1912, nos. 2, pp. 39–45, figs. 7; 12, pp. 15–17, figs. 2; 10, 1913, nos. 1, pp. 11–16, figs. 6; 2, pp. 13–19, figs. 10.

Commission on Milk Standards. Second report of the commission on milk standards appointed by the New York milk committee. *Pub. Health Rpts.* [U. S.] xxviii, 1913, no. 34, pp. 1733–1756. fig. 1.

A New Method of Grading Milk and Cream. W. C. Woodward, *Pub. Health Rpts.* [U. S.], xxviii, 1913, no. 8, pp. 333–340.

The House Fly and Diarrheal Disease among Children. D. B. Armstrong, *Jour. Am. Med. Assn.*, lxii, no. 3, pp. 200, 201.

An Investigation into the Relationship of the House Fly to Disease. Donald B. Armstrong, *Amer. Jour. Pub. Health*, iv, 1914, no. 3, pp. 185–196.

Contamination of Food Supplies: The Value of Protozoa as an Aid in Determining Fecal Contamination of the Food Supply. C. W. Stiles, *Pub. Health Rpts.* [U. S.], xxviii, 1913, no. 7, pp. 290, 291.

Flies as Carriers of Lamblia Spores: The Contamination of Food with Human Excreta. C. W. Stiles and W. S. Keister, *Pub. Health Rpts.* [U. S.], xxviii, 1913, no. 48, pp. 2530–2534.

Contaminated Vegetables: The Use of Night Soil in the Vegetable Garden as a Possible Disseminator of Disease. J. D. Long, *Pub. Health Rpts.* [U. S.], xxviii, 1913, no. 13, pp. 592, 593.

Measles. W. C. Rucker, *Pub. Health Rpts.* [U. S.], 1913, sup. 1, pp. 8. (A discussion of the subject valuable for mothers, teachers, and for popular instruction.)

Contagious Diseases; Their Prevention and Control in Children's Institutions. J. B. Leak, *Pub. Health Rpts.*, [U. S.], 1913, sup. 6.

Tuberculosis: Its Predisposing Causes. F. C. Smith. *Pub. Health Rpts.* [U. S.] 1913, sup. 3, pp. 7. (Valuable for popular instruction.)

Tuberculosis: To What Degree is it Spread by Association in Households? *Pub. Health Rpts.* [U. S.], xxix, 1914, no. 8, pp. 445–448.

Prevention of Malaria: Suggestions on How to Screen the Home to Keep Out Effectively the Mosquitoes Which Spread the Disease. R. H. Von Ezdorf. *Pub. Health Rpts.* [U. S], xxix, 1914, no. 9, pp. 503–508, pls. 2.

Trachoma: Its Nature and Prevention. J. McMullen, *Pub. Health Rpts.* [U. S.], 1913, sup. 8.

Hospital Relief for the Country: The Possibility Offered by Hospital Trains in Furnishing Much Needed Medical and Surgical Facilities to Rural Districts. C. W. Stiles, *Pub. Health Rpts.* [U. S.], xxviii, 1913, no. 5, pp. 208–212.

Country Schools and Rural Sanitation. Six sample public schools in one county. Does this county need medical inspection in its schools? The country school teacher. C. W. Stiles, *Pub. Health Rpts.* [U. S.], xxviii, 1913, no. 6, pp. 247–249.

Rural Schools. Sanitary Survey of Schools in Bartholomew County, Ind. J. A. Nydegger, *Pub. Health Rpts.* [U. S.], xxix, 1914, no. 6, pp. 342–355.

Shower Bath for Country Houses: A Serviceable and Inexpensive Shower Bath Readily Improvised in Town or Country, C. Fox, *Pub. Health Rpts.* [U. S.], 1913, sup. 7, pp. 4, fig. 1.

Hygiene of Farmhouse and Farm. J. A. Nydegger, *Med. Rec.*, lxxxv, 1914, no. 4, pp. 143–146.

Water Supply, Plumbing, and Sewage Disposal for Country Homes. R. W. Trullinger, *U. S. Dept. Agr. Bul. 57*, 1914, pp. 46, figs. 38.

Public Health Problems and the Education of Nurses. *Survey*, xxxi, 1914, no. 23, p. 692.

Federal Public Health Administration: Its Development and Present Status in the United States. J. W. Kerr, *Pub. Health Rpts.* [U. S.], xxviii, 1913, no. 3, pp. 109–119.

Medical Inspection of School Children: Its Practice and Results in Manilla, Philippine Islands. C. Fox, *Pub. Health Rpts.* [U.S.], xxviii, 1913, no. 4, pp. 166–168.

The Full-Time Health Officer: His Importance in Local Health Administration and in the Advancement of Rural Hygiene. L. I. Dublin, *Pub. Health Rpts.* [U. S.], xxix, 1914, no. 1, pp. 13–19.

Economics

Putting the American Woman and her Home on a Business Basis. Christine Frederick, *Amer. Rev. of Revs.*, xlix, 1914, no. 2, pp. 199–208, figs. 9.

Factors in the Cost of Living. F. W. Blackmar, *Rpt. Kans. Bd. Agr.*, xxxii, 1913, no. 125, pp. 47–58. (Statistical and other data are presented.)

Increased Cost of Maintenance of Children. *Special Report Chicago Nursery and Half-Orphan Asylum, 1860-1913*, Chicago, 1913, pp. 12, 13.

Cost of Living in Nova Scotia. J. W. Ragsdale, *Daily Cons. and Trade Rpts.* [U. S.], xvi, 1913, no. 157, p. 134.

Chicago's City Grocery Store for the Unemployed, *Survey*, xxxi, 1914, no. 24, p. 735.

Recent Developments in Weights and Measures in the United States. Louis A. Fischer, *Pop. Sc. Monthly*, lxxxiv, 1914, no. 4, pp. 345–369.

Increasing America's Meat Supply. *The Craftsman*, xxvi, 1914, no. 1, p. 99.

How to Live on 3d. or 4d. a Day and What can be Learnt From It. F. J. Cross, *Cassell's Mag.*, 1914, n. ser., January, no. 22, pp. 161–170, figs. 8.

How to Live on 2d. a Day in Time of Adversity, and What can be Learnt from It. F. J. Cross, *Cassell's Mag.*, 1914, n. ser., February, no. 23, pp. 223–227, figs. 3.

Food Prices in London—An Inquiry Into Present Conditions as Affecting the Poorer Classes of Workers, J. C. Pringle, London: *Charity Organ. Soc.*, 1913, pp. 36.

Dietaries and Accounts for Poor Law Unions, England and Wales. *Local Govt. Bd.* [*Gt. Brit.*], *Workhouse Regulation* (*Dietaries and Accts.*) *Order*, 1900, pp. 27; *Rpt. Dept. Committee Local Govt. Bd.* [*Gt. Brit.*] *Poor Law Orders, 1*, 1913, pp. 8, 15, 16, 37–47, 83–88.

Some Aspects of Food Conservation by Refrigeration, Frank A. Horne; Wholesale City Distribution of Farm Products, Frank G. Urner; A Questionnaire on Markets, John W. Farley; The Consumers' Coöperative Movement in Chicago, W. M. Stickney; Constructive Program for Reduction of Cost of Food Distribution in Large Cities, Thomas J. Libbin; *Ann. Am. Acad. Polit. and Soc. Sci.* l, 1913, no. 139.

BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS at the price listed.

Rearing an Imperial Race. Containing a Full Report of the Second Guildhall School Conference on Diet, Cookery, and Hygiene, with Dietaries; Special Reports from H. M. Ambassadors Abroad; Articles on Children's Food Requirements, Clothing, Etc. Edited by C. E. Hecht. London: The St. Catherine Press, 1913, pp. xlviii + 508, pls. 12, fig. 1. Price, 7s. 6d.

The National Food Reform Association is blazing a trail in the matter of titles for the reports of meetings, a form of literature not very attractive to the average reader and in which the results of many hours of labor are likely to lie buried. The report of its first conference, held in Guildhall, London, in 1912, was given to the public under the title "Our Children's Health at Home and at School" (reviewed in JOURNAL OF HOME ECONOMICS, 5, 1913, no. 4, p. 340), and now comes the second year's proceedings under the still more alluring name, "Rearing an Imperial Race." The example might well be followed by other organizations.

Less can be said about the typographical means employed to make clear the relation of things and about the arrangement of the material in the book, which, since it is likely that it would prove useful chiefly to students of practical dietetics, should be readily accessible. A given student is likely to be specially interested in some one phase of the subject—in rural school lunches, perhaps, or in the teaching of hygiene, or to want particularly to know what some one authority contributed to the symposium. Such a student is likely to be lost in the mazes of the volume, not so much perhaps for lack of guide posts as for a bewilderingly large number of them. Almost every paragraph has a conspicuous heading in large type calling attention to what is to come, and calculated to be rather distracting to the reader who is able to see his own way through ordinary text. "A Plea for Indulgence," for example, as a paragraph heading, is hardly necessary for the purpose of indicating that the woman who opened the discussion apologized for being unprepared, since the fact is clearly stated in what follows, and, since it is in type no larger and no more conspicuous than the headings which have gone before, it is hardly a successful means of showing that a paper has come to a close and the discussion has begun. For reference purposes too it would be helpful to have a clearer division between the papers actually presented at the conference and the other material which the editor has selected from one source or another and considers relevant. Then too, editorial comments are not separated from other matter by any of the usual typographical devices.

Of good material there is much, a fact which renders the poor arrangement even more regrettable. The papers read at the conference are grouped under four general heads: Diet, Cookery, and Hygiene under the Education (Provision of Meals)

Act, 1906, and Education (Scotland) Act, 1908; Life and Diet of Primary Scholars; Teaching in Public Elementary Schools of Personal Hygiene, Food Values, Domestic Catering and Cookery; Diet, Cookery and Hygiene in Day and Residential Institutions for Children and Adolescents. These occupy little more than half the volume. The following 30 pages are devoted to the description of the exhibits including dietaries in many schools; and the last 200 pages, to miscellaneous material mentioned above, which is germane to the subject but was not presented at the conference. This section includes a description of "An Essex Village Health Center," the scene of the activities of the "Pudding Lady," who under the patronage of Lady Meyer is sent into the homes of the district to teach cooking; descriptions of the continuation classes conducted in the Cadbury and the Rowntree Cocoa Works; and a good article on "Clothes and the Child." Those who are specially interested in rural problems will find much of value in "How the Family of the Agricultural Laborer Lives," by Ronald T. Herdman, M.D., D.P.H.

The Delinquent Child and the Home. By Sophonisba P. Breckinridge and Edith Abbot. New York: The Survey Associates, pp. 360. $2.

This book commends itself to anyone who has the well-being of the child at heart. It contains a study of juvenile delinquency which was made in Cook County, Illinois, the data used being the court records from July 1, 1899 to June 30, 1909; homes and parents were visited, probation officers interviewed, and school statements taken.

The introduction by Julia C. Lathrop states that when the Illinois law for the establishment of the Juvenile Court was passed in 1899, the child in court was a sign of the wastage of human life. Also the child was being demoralized by imprisonment for which there was no alternative but discharge or pardon. There was no constructive work.

The new court calls for different facilities from those of jails and prisons, and for officers of a different experience from that of sheriffs and bailiffs. The present drawbacks of the Juvenile Court are its newness, its need of wisdom based on longer experience, and its lack of adequate equipment. The authors designate their book as an "Inquiry" made for the purpose of a better understanding of the needs of all children, and a more intelligent judgment of the Juvenile Court in serving children. There are eight problems considered in order and at considerable length.

The problem of *adjustment* is due to several causes. Foreigners tend to segregate in separate national groups, which makes it difficult for them to be fitted into an American community. In their own land they were for the most part farmers; here they are engaged in work not at all connected with agriculture. The parents lack education and do not know how to protect their children against the perils which surround them.

Poverty is often a direct and compelling cause of delinquency. The investigation showed that 69 per cent of the girls and 38 per cent of the boys come from the very poor families. Nine-tenths of the girls and three-fourths of the boys come from the poor; less than one-tenth of the total come from the families in fairly comfortable circumstances; less than two per cent from those whose homes are apparently quite comfortable. Poor children are so often handicapped physically and mentally and cannot resist temptation when it comes. To quote, "When we see all the

background of deprivation in their lives, the longing for a little money to spend, for the delights of the nickel theater, for the joy of owning a pigeon or the glowing adventure of a ride on the train, it is not hard to understand how the simple fact of being poor is many times a sufficient explanation of delinquency."

The problem of *misfortune* includes the broken home, for which it is no easy matter to provide a substitute. The child has many temptations. At the same time there is a lack of wholesome discipline which the normal family gives. A young orphaned girl abandoned in the city may easily become delinquent. A step-parent often causes friction. Nothing can take the place of parental care and nurture.

In the case of *degeneracy* the body suffers with the spirit and seems to have no power of resistance. It is difficult to find these delinquents as well as to know how to treat them. Conditions are often discovered too late for effective treatment. "When taken in time action should be as swift and sure as it is intelligent and far seeing, since there is no time to lose."

Confusion is a subtle factor. Many children have no fair chance to acquire self control or develop a strong character. The oldest child of a family is often brought into court because of having to bear too much of the family burden or because the parents were so young when married that they had no sense of proper discipline. Children forsake overcrowded homes for the freedom of the streets, and sleep wherever they happen to be. Discomforts of home, step-parents, general incompetence and shiftlessness, complete lack of understanding and interest portray a pathetic condition. The probation officer becomes a welcome friend who helps bring order out of the disorderly home and gives advice not only about the children but about the management of the home as well.

The *school* is a necessary supplement to the home, but the great majority of poor boys leave school to assume pecuniary burdens. Often the first lesson the boy has in law-breaking is when the parent swears that he is fourteen years old when he is not. Temptations are great and varied, due to small amount of training and the impossibility of obtaining desirable work. The status of the girls was harder to obtain than that of the boys; but the information gained showed them to be more illiterate. The remedies are compulsory education, Child Labor Laws, and ungraded or sub-normal classes.

Because of *neighborhood neglect* the children of the poor have fewer facilities for recreation. The greatest number of delinquents are found in congested sections where there are few parks and playgrounds. Both boys and girls, especially girls, are victims of neighborhood conditions. It is a community duty to provide wholesome recreation for youth.

The problem of the *unmanageable boy* in cases where discipline is exercised at home proves that the bad boy is not alone the product of poverty and misfortune. He is led on by the spirit of adventure. The parents show too great leniency rather than the semi-brutal treatment that sometimes is found in the lower grade home. The gang influence in this class throws a halo of good comradeship and security over wrong doing.

The delinquent child is neglected by the home, the school and the community. "The lesson to be learned from any study of the Juvenile Court in its relation to the delinquent child is that the only way of curing delinquency is to prevent it."

The thirty statistical tables are full of interest and are worth a careful study.

Every phase of the subject is illustrated by short extracts from personal investigation. If any questions have arisen in the mind of the reader they are fully answered in the Appendix which contains Legal Problems Involved in the Establishment of the Juvenile Court, Testimony of Judge Pinckney, Abstract of Juvenile Court Laws, Family Paragraphs Relating to Boys, Family Paragraphs Relating to Girls, and Copies of Schedules Used in the Inquiry.

The Atmospheric Conditions of Workingmen's Houses in the Country in Summer. (Das Wohnungsklima der Arbeiterwohnungen auf dem Lande in Sommer.) By P. Schulz. Inaug. Diss., Univ. Greifswald, 1913, pp. 63, pl. 1, figs. 10.

This thesis contains a study of housing conditions in the country around Greifswald, Pomerania, with special reference to their effect upon infant mortality during periods of prolonged heat.

Different types of houses of brick, plaster, etc., with thatched and tiled roofs, etc., are described. Some data are included regarding methods of house-keeping, living conditions, and ventilation. In general, the author concludes that the infants were kept too warm, owing to housing conditions as well as to faulty methods of clothing them, and that this had an unfavorable effect on health and mortality.

Nutritional Physiology. By Percy G. Stiles. Philadelphia and London: W. B. Saunders Company, 1912, pp. 271, illus. $1.25. By mail of the Journal, $1.35.

Smooth, concise, expressive diction, apt parables, well-balanced presentation of thoroughly up-to-date matter and candid delimitation of what we know from what we guess are all characteristics one expects to find in Stiles' work. He has long been known as one of the ablest of the newer generation of writers on physiological subjects.

His new book exemplifies his admirable literary points and presents little to question seriously. Seeking earnestly for defects one is forced to confine oneself chiefly to regretting the omission of the more intricate matters which might have been included without confusion, when treated in the simple, direct manner of the writer, and, specifically, the absence of anything relating to vitamins, those little known but apparently important constituents of certain foods the absence of which seems to account for beri-beri, scurvy and perhaps other distinctly nutritional derangements.

Stiles is one of the few scientific writers who take pleasure, with great profit to their readers, in balancing off laboratory findings against the natural history of people in the mass. His shrewd comments on the relation of Fletcherism to vigorous old women (chapter xxii), and on alcohol (chapter xxiv) are models of correlating "field work" with test tube work.

If we may be permitted one mild gibe, the writer's tribute to the restraint of women at the table as compared with that of men, might well be offset by the reversal of their relative attitudes in the clothes shop: and we would respectfully suggest that, in future editions, the question why women's excesses run to the outside of the body, and men's to the inside might well be discussed.

We welcome this little book as a very valuable one for the consideration of non-technical students of the more thoughtful type, as well as for a large and growing class of older citizens who are more and more turning their attention to physical

efficiency and development. For the practicing physician who would absorb without too much effort or too much study of long forgotten technicalities the present developments of the subject of nutrition, the reviewer knows nothing better on the market.

Injurious Insects, How to Recognize and Control Them. By W. C. O'Kane. New York: The Macmillan Company, 1912, pp. 414, illus. 600. $2. By mail of the Journal, $2.16.

An entomologist has written this book for those who have no technical knowledge of insects. It describes pests of garden and field crops, of orchards and small fruits, of the household and stored products, and of domestic animals. It contains also description and information concerning the structure and life of insects in general, and information concerning various insecticides and other means of insect control. Besides this, specific directions for destroying the pest are given with the account of each species. The species described include those from other parts of the United States as well as from eastern states. The illustrations (original photographs) are very numerous and useful. The section devoted to household pests and those of stored products includes twenty-two pages. As over thirty species are mentioned in this space, not a great deal of detail is given to each, but the remedies suggested are most helpful.

How to Cook in Casserole Dishes. By Marion Harris Neil. Philadelphia: David McKay, 1912, pp. 252. $1. By mail of the Journal, $1.10.

The author first gives a definition of casserole, which differs slightly from our usual interpretation of the word. The use of the casserole as a labor-saving device, since both cooking and serving can be done in the same dish, is spoken of at length. Several commendable features of casseroles and their uses are mentioned, such as: the low cost of the utensil; an entire absence of all metallic contamination; the non-necessity for re-dishing the food as the casserole is ornamental enough to grace any table; the readiness with which it may be cleaned and its sanitary qualities, for no taste or odor of former cooking adheres; the retention of all flavors by the process of long, slow cooking; the ability to keep foods waiting for the delayed family without harm to the food. A few instructions as to care of casserole before its first use, care in the oven and on top of the range, are given. The remainder of the book is given over to recipes of dishes "en casserole." These include soups, fish, meat, vegetables, salads, puddings, cakes, and even pickles and preserves, and average about twenty for each division.

The One Maid Book of Cookery. By Mistress A. E. Congreve. New York: E. P. Dutton and Company, 1913, pp. 217. $1. By mail of the Journal, $1.08.

The value of this book lies in its fund of practical information on domestic arts principally dealing with food and its use and preparation. In cookery common sense can not be wholly relied upon. Some knowledge of the principles of food chemistry and food nutrition are necessary, together with practice and experience. Catering deals with the daily provision of food for the household. The author gives several happy combinations and substitutes of food as a help to the housekeeper. In shopping or selecting the raw materials, good quality always proves to

be the economical. The book also gives excellent advice for the arrangement and care of kitchen, scullery and larder. A most interesting chapter on cookery methods and their principles precedes the many recipes of which the book is largely composed.

The Efficient Kitchen. By Georgie Boynton Child. New York: McBride Nast and Company. $1.25. By mail of the Journal, $1.35.

Occasionally a real contribution is made to the rapidly increasing literature on the subject of household efficiency. Such a one is "The Efficient Kitchen." It is a reliable, scientifically practical statement of how conditions may be transformed in any home, on any income, to make efficient work a possibility instead of the much-talked-of ideal.

One of the first genuine efforts to solve some of the problems pressed upon our attention by the increasing cost of living was that of the Housekeeping Experiment Station begun at Darien, Connecticut, some years ago by Mr. and Mrs. Barnard, and now being carried on at Stamford, Connecticut, by Mr. and Mrs. Alfred T. Child. It is from the results gathered from several years of experimental work, both practical and scientific, that this book has been prepared. The cordial credit that is given in the book to the pioneer work of Mr. and Mrs. Barnard is one of its most attractive features.

After much search for help in solving the problems of their early housekeeping Mrs. Child says, "Finally we came to the Housekeeping Experiment Station at Darien, Connecticut. Here at last we found what we had been seeking: an inexpensive but charming home which had been so transformed by engineering skill that it could be cared for with the minimum expense, and so equipped that it could be operated with the smallest possible amount of effort. Here we learned of two wonderful resources for preparing food, adapted to the income of the average home. Here we heard of Taylor's book on 'Scientific Management,' which has been revolutionizing the business world, and here we saw two old people living happily an ideal life in which labor and culture each had its rightful place. At last science and high ideals had transformed 'villian kitchen vassalage' into the noble profession of home-making." After a year spent with Mr. and Mrs. Barnard in a study of equipment, fuels and the best appliances for each, Mr. and Mrs. Child took over the Housekeeping Experiment Station.

The significant fact should be noted by every reader of "The Efficient Kitchen," that Mr. and Mrs. Child made no attempt to write a book until they had had years of work in this field, also that Mr. Child brought to the experiments the trained, educated mind of a chemist and a physicist, and Mrs. Child that of a woman of practical home, as well as business, experience. It is easy to write and talk glibly on the fascinating topic of household efficiency, without giving one word of real help to the housekeeper who knows it is absurd to talk of running a household on a railroad schedule, and who is perfectly aware that to follow the suggestions given would mean creating a new heaven and a new earth in the minds and hearts, habits and behavior, not alone of her own family, but of the stranger within her gates. It is not so easy to give advice and make proved statements which may aid every woman who heeds, yet Mrs. Child has succeeded in doing this.

In chapter III is fully explained the grouping of materials and utensils according to the uses they serve rather than in the old way according to kind (the agate ware utensils in one closet, groceries in another, cooked food in another, etc.).

Merely to read this is to convince a housekeeper of the older type that she has been on the wrong track all her life.

Chapter VI on hotwater heating systems is an excellent résumé of the various means in use for obtaining in the house the temperature necessary for comfort.

The chapter on the Business Side of the Kitchen will be found very encouraging to the woman who is striving to bring her finances into order but has little time to give to the task.

From the first definition, "Efficiency has meant in the past the power to produce results. It now properly means much more. It means power to produce the best results at the lowest cost of time, labor and materials," through to the end the book is definitely helpful and very readable.

Syllabus of Home Economics. (Corrected, January, 1914). Baltimore: American Home Economics Association, 1913, pp. 69. Paper, $0.50; Cloth, $1.00. (See Review in JOURNAL 6, 1914, No. 1, p. 87.) Publication No. 1 for the Ellen H. Richards Memorial Fund.

To meet the demand for the Syllabus, a reprint was necessary. Advantage was taken of this to introduce a few textual corrections and to amplify the last section of the Syllabus, "Household and Institution Management—Aims and Results," (p. 69) in accordance with suggestions which had been made since the Syllabus was published. The principal subdivisions of "Aims and Results" now reads: "Theoretical Considerations," "Physical Well-being," "Mental Discipline and Development," "Development of Normal Affections and Interests," "Inspiration," "Social, Moral and Spiritual Advancement."

The data grouped under "Theoretical Considerations" now reads: "Historical, general, and theoretical data; the ultimate purpose of the study of all home problems is the fullest and best development of the individual, the family, and the larger group; the home as the place in which one's affections center and where one finds refuge, rest, or satisfaction;" etc., the remainder of this paragraph being unchanged.

The changes in this Section are described in full in order that those who already possess copies of the Syllabus may, if they so desire, add to page 69 the few words needed to make it accord with the revised edition.

Childs' Recipes for Cooking and Preparing—Serving and Portion List. New York: Child's Company, 1913, pp. 90. Privately printed.

Recipes and directions are given for the preparation of a large number of dishes, particularly those adapted to restaurant service.

A portion and serving list shows the amount required for one service and gives brief directions as to the proper dishes and methods of service. In an appendix, rules for testing milk and the trade names of crockery and utensils are given, as well as a large amount of data regarding the number of fruits, vegetables, or other food materials in a barrel or box and the number of individual portions of cereals in a package, and information regarding the standards to be followed in selecting meats, fruits, and vegetables. This collection of data, evidently designed for private use, contains as a whole much of interest regarding the preparation of food in quantities and regarding restaurant service.

The pages are bound together in a loose leaf volume and for the use of the firm only.

The Grocer's Encyclopedia. Compiled by A. Ward. New York: 50 Union Square, 1911, pp. 748, pls. 80, figs. 373. Price, $10.00.

This volume contains a large amount of data concerning foods, both animal and vegetable, their origin, preparation, and marketing, care of foods in market and in the home, as well as data regarding their use, and much general information. The volume was prepared as a reference handbook for grocers and general storekeepers.

The material is arranged alphabetically in encyclopedic form. A dictionary of food names in five languages is included, together with tables of weights and measures.

The colored plates and other illustrations supplement the text and add to the usefulness of the volume.

Report of the Commonwealth and States of Australia, Second Conference on Uniform Standards for Foods and Drugs. Melbourne: Govt., 1913, pp. 47.

General and specific standards and regulations are proposed with respect to foods, condiments, beverages, and drug products.

Especially noteworthy is the attention paid to the question of protection of food from contamination. Some of the suggestions along this line have to do with personal cleanliness, spitting and the use of tobacco, infectious disease, protection of food in vehicles, the return of food after it has been sold, wrapping the foods, protection from flies and dust and from rats and vermin, clean premises, sleeping rooms, and animals with reference to possible contamination, vehicles and appliances, drinking vessels and tableware, and table napkins in public eating places (a regulation designed to prevent the use of the napkin under such conditions until it has been thoroughly washed and cleansed).

New Ways and Old—A Manual of Cookery Especially Adapted to the Gas Range. By Elsie G. Caring. Rochester, N. Y., 1913, pp. 19.

A number of recipes are included, also tables indicating the amount of heat to be used and the time required for cooking the different articles.

Bakers' Bread. By P. Richards. Chicago, 1913, 3 ed., pp. 121, pl. 1.

This book is designed for the use of bakers. It contains numerous recipes for making a great variety of plain and fancy breads and rolls, together with short discussions of different kinds of flour and their use and of the preparation and use of bakery yeasts.

Feed, and Flavor and Texture of Cheese. By T. A. Ubbelohde. Dairy, 25, 1913, no. 291, pp. 74.

From experience and observation the author summarizes data on the effect of feed upon the quality of cheese.

Some feeds affect the texture and others the flavor of cheese. In handling the curd the affect of feeds on the texture can not be entirely overcome to produce a good waxy cheese, although a fairly good cheese may be made. The most troublesome feeds are those containing a large amount of oily or fatty matter. The cheese made from the milk of cows that had eaten acorns was found to develop a sharp acid flavor when about 4 weeks old, although its texture was good.

Technical Education Bulletins. New York: Schools of Technical and Industrial Arts and Household Arts, Teachers College. Price, 10 cents each.

This is a series of bulletins each of which may be considered authoritative on its subject. They are models of concise and simple statements. The series includes Girl of Tomorrow, Household Management, Feeding of Young Children, Hints on Clothing, Determination of Cotton and Linen (25 cents), Dietary Study in Children's Hospital, Canned Foods: Fruits and Vegetables, Physical and Chemical Tests for the Housewife, and New List of Supplies and Equipment for Household Arts.

Housekeepers' Manual. Department of Home Economics of Rhode Island State Federation of Women's Clubs, 1913, pp. 65.

The Home Economics committee prepared this pamphlet for distribution, by the clubs of Rhode Island, to housekeepers of the state. It is not intended for women of experience in well-planned housekeeping, but for those who have had little opportunity to learn the way to better living.

Helpful suggestions are given on sewing, cleaning, laundering, labor-saving devices, and methods of preparing and serving meals, together with a number of recipes. General directions for the care of the sick, the care and feeding of babies and children, the making and use of a fireless cooker, and living on the budget plan complete the informational part of the pamphlet. A list of books and government publications is added.

Outline Lessons in Housekeeping including Cooking, Laundering, Dairying, and Nursing: For use in Indian Schools. Washington: Government Printing Office, 1911, pp. 23. Price, 5 cents.

Although prepared for use in Indian schools, this publication may serve as an aid to teachers in other schools. It contains lists of reference books, text books, teaching and laboratory equipment, brief outlines for thirty-four lessons, and a tentative program for a week's work in a boarding school.

Training the Little Home Maker by Kitchengarden Methods. By Mabel L. Keech. Philadelphia and London: J. B. Lippincott Company, 1912, pp. 81, pls. 5, fig. 1. $1. By mail of the Journal, $1.08.

An outline of a two years course in housekeeping, one lesson a week, for girls between eight and eleven years of age. The book contains a list of articles needed in the course with their prices and the music and words of many kitchengarden songs.

A List of Books for Women in the Home and in Business. Seattle: Seattle Public Library, 1913, pp. 45. A limited number free.

The compiler of this list states in a short introduction that "women are studying their problems as never before, and it is because of this very keen interest of women in women that we hope this list may prove especially useful at the present time."

Under such headings as Domestic Economy, Home Building, Cooking, Dietetics, Sanitation, Clothing and Textiles, Care of Children, and Economic and Social Relations, selected lists are given of books by authorities on each subject. A list of magazines for women is found on the last page.

Choosing an Occupation: A List of Books and References on Vocational Choice, Guidance and Training, in the Brooklyn Public Library. Brooklyn: Brooklyn Public Library, 1913, pp. 63. Single copies free.

In this publication one finds selected lists of books and periodicals on the related subjects of vocational choice, vocational guidance, and vocational training. In the first division, vocational choice, the lists are arranged under specific occupations. There is also a list of other bibliographies on vocational subjects.

BOOKS RECEIVED

Practical Homemaking. By Mabel Hyde Kittridge. New York: The Century Company. $0.60. By mail of the Journal, $0.65.

The Craft of Hand-Made Rugs. By Amy Hicks. New York: McBride, Nast and Company. $2. By mail of the Journal, $2.10.

How to Buy Furniture for the Home. By Forrest Oiler. Indianapolis: Oilar Brothers. Postage prepaid, $1.50.

The Fundamental Basis of Nutrition. By Graham Lusk. New Haven and New York: Yale University Press. $0.50. By mail of the Journal, $0.55.

The Oriental Cook Book. By Ardashes Keoleian. New York: Sully and Kleinteich. $2. By mail of the Journal, $2.10.

The Care of the Child in Health. By Nathan Oppenheim. New York: The Macmillan Company. $1.25. By mail of the Journal, $1.32.

The Development of the Child. By Nathan Oppenheim. New York: The Macmillan Company. $1.25. By mail of the Journal, $1.35.

The Mother and Child. By Norman Barnesby. New York: Mitchell Kennerly $1.25. By mail of the Journal, $1.32.

First Book of Health. By Carl Hartman and Lewis Bibb, M.D. New York: World Book Company. $0.35. By mail of the Journal, $0.40.

The Human Body and its Enemies. By Carl Hartman and Lewis Bibb, M.D. New York: World Book Company. $0.65. By mail of the Journal, $0.75.

Industrial Education. By Albert Leake. Boston: Houghton Mifflin Company. $1.25. By mail of the Journal, $1.35.

Teaching Sex Hygiene in Public Schools. By Edith Lowry, M.D. Chicago: Forbes and Company. $0.50. By mail of the Journal. $0.55.

NEWS FROM THE FIELD

Pacific Conference of Home Economics. The last annual meeting of the Pacific Conference of Home Economics was held November 13, 1913, at Los Angeles. An address on Household Management was followed by a business meeting in which the officers for the year were elected. Much interest has been manifested in the work of the Conference during the year, and twenty-five members have joined since the fall meeting.

The formation of the two sections—Domestic Art and Domestic Science—has been an excellent idea as shown by the interest and good attendance at the monthly meetings of each section.

The Domestic Art Section has been making a special study of Textiles and Vocational Training for Girls. Members have visited stores, examined materials, and gained much information and help. They also secured men and women of practical experience in handling such materials to address their meetings on the subjects of millinery, dressmaking, linens, silks, laces and household furnishings.

The Domestic Science Section carried out their program in a similar way, taking up the subjects of food (meat, milk, etc.), markets, the Underwood tariff bill in its relation to economics, and methods of teaching domestic science.

The Home Economics Association of Greater New York. The regular meeting of the Association was held March 26, 1914, at Teachers College. Miss Van Rensselaer spoke on the subject, Home Economics and Rural Progress.

The demand for teachers in the rural sections, Miss Van Rensselaer said, is greater than in the cities at the present time and the requirements are high. The teacher must have had practical experience in order to speak profitably to a farm community. Miss Van Rensselaer believes that two of the great needs that the women in rural sections feel at present are, first, how to dress and furnish the home tastefully; second, how can woman's work be financially profitable. The first will satisfy her artistic cravings and the second enable the girl to stay on the farm and not feel the necessity for going into the cities to enter factories.

The meeting was well attended and Miss Van Rensselaer's address was appreciated.

The Association was invited to attend, on March 19, two food conferences arranged by the Bureau of Public Health and Hygiene and held at The Academy of Medicine. The meetings were very profitable.

Miss Hazen, in charge of the Gas Appliance Display Rooms entertained the Association in the Model Apartment on March 4. The new gas appliances were very well demonstrated.

The Omicron Nu Society. The Beta Chapter of Albany, N. Y., has thirteen active members, two of whom are faculty members. Meetings are held about every six weeks during the school year. At these meetings certain topics in Home Economics are considered. Thus far this year, the topics have been Pure Food

and Its Adulteration, Current Events in Home Economics, and the Consumer's League.

The exercises on Home Economics Day were planned by the Society, Miss Anna Cooley of Teachers College being the principal speaker.

New England Home Economics Association. The third regular meeting of the New England Home Economics Association was held at the Twentieth Century Club, Boston, on Thursday, March 5. The subject was Woman as a Purchasing Agent. The speakers were Mrs. Forrester Macdonald Lowell, How I Planned and Furnished my House; Miss Lillie C. Smith, The Cost of Food in Relation to its Nutritive Value (illustrated by a chart prepared by the pupils); Miss Frances Stern, Purchasing Food for the Immigrant Family; and Miss Annette Crocker, The Professional Purchasing Agent and Accountant.

The annual meeting was held at Simmons College in May.

Home Economics Day in Pennsylvania. For the first time, Home Economics Day was brought to the attention of thousands of women in Pennsylvania through *The Messenger*, the organ of the State Federation of Women. The day was observed in many places by a short review of the life and writings of Ellen H. Richards, which gave every one a new sense of obligation to our pioneer in Home Economics. The importance of the work to which she devoted her life is also being impressed upon the women throughout the state.

Seattle Home Economics Association. The topics for discussion at the meetings held during the year were: Market Regulations and Their Enforcement, Vocational Guidance, A European Trip, Hanging of Pictures in the Home, Violations of the State Food Laws, Illustrative Material for Textiles and Clothing, The Educational Value of Home Economics, The Work of the Industrial Centers.

In addition to the regular program, work has been carried on in investigating local market and factory conditions, and in preparing an exhibit for the Child Welfare Exhibit held in May.

The Home Economics Association of Philadelphia. The most important work of the current events committee has been the preparation and publication of a four page bibliography for Home Economics literature in current magazines and reports. The references are arranged under three headings: articles of general interest, articles for the school dietitian, and articles on foods.

The household science committee arranged for two meetings in April, as follows: April 6, at the William Penn High School, Bill of Fare Making, Miss Caroline Hunt; April 22, at Temple University, Budget Making, Miss Ethel Lamping.

The Graduate School of Home Economics. The Graduate School of Home Economics which was announced to be held at the University of Missouri during the summer of 1914, will not be held. The annual meeting of the American Home Economics Association which will be held in Cleveland early in July affords opportunities for reports, conferences and lectures which otherwise would be given at the Graduate School. It is hoped that the omission of the Graduate School will result in a larger attendance at the Annual meeting. Amy L. Daniels, Chairman of Committee on Graduate School.

Missouri Home Makers Conference. The State Homemakers Conference of Missouri is an organization of women which holds its annual meeting in Columbia in connection with the Home Economics Department of the University. The work of this Conference is divided into several departments, one of which is that of Child Welfare.

In this department only three lines of interest were selected this year. One session was given to art and music in the home. Another meeting was devoted to papers and discussions of moral and ethical training in the home. The third meeting was one on games and amusements for children and with it was held a baby health contest. The children from the elementary school of the State University gave an exhibition of games such as ten pins, bean bags, three deep ring toss, and basket ball. Some Mother Goose rhymes were dramatized, and a number of folk dances were given.

The baby health contest was instituted in order that the babies of our state might receive more attention. It was conducted without prizes of any kind, and the babies were protected from publicity in every way. The score card used was furnished by the Physiology Department of the State University and is an attempt at measuring the child's physical and mental development. The anthropometric measurements were made by persons of experience and skill. The medical examination was given by the Dean of our State Medical School, who is a specialist in eye, ear, nose and throat disease.

The score cards, when completely filled out were mailed to the parents of the babies. The front of the card contained the eugenical history of the child, and a set of rules for preservation of the health of the baby.

This whole movement has been characterized by the absence of any comparison of children, of any commercialism, or any of the spectacular, or sensational element. No attempt was made to give medical advice, though an attempt was made to give intelligent answers to questions. Where the need of a doctor's care was indicated the attention of the parents was called to this fact.

Sixty babies were entered, and they included all strata of society. These babies averaged higher than Holt's standards and a little lower than the Colorado babies as reported in the newspapers.

This contest impressed one strongly with the fact that parents, while ignorant on what modern science says about the care and culture of babies, are most anxious to learn all that they can on this subject and that until we find some means of bringing this information within the reach of all parents we must not hope to materially lessen our infant mortality.

Household Arts Alumni Conference at Teachers College. Seven hundred alumni of Teachers College, Columbia University, celebrated the twenty-fifth anniversary of that institution, February 20–21, with an educational conference in which one section was devoted to household arts. About one hundred and fifty persons interested in household arts teaching gathered for the following program:

What the Society for the Promotion of Industrial Education is Doing at the Present Time, with Particular Emphasis upon the Work for Girls, by Miss Cleo Murtland, Assistant Secretary, National Society for the Promotion of Industrial Education; The Women's Educational and Industrial Union and Simmons College, by Prof. Mary Schenck Woolman; Household Arts in a Children's Home, by Mr.

R. R. Reeder, Superintendent, Orphanage, Hastings-on-Hudson; A Bit of Historic Costume, (illustrated with stereopticon slides), by Miss Jane Fales, Assistant Professor of Household Arts, Teachers College.

In addition to the educational conference, a meeting of the graduates in Household Administration was held, bringing together about forty former students. Reports were given by young women engaged in conducting a laundry, a tea room, women's clubs, visiting housekeeping work, factory welfare work, the work of manager of a university, and other new fields which are opening in administration.

Massachusetts Agriculture College, Extension Service. Home Economics extension work has for the first time been organized on regular lines during the past year. The first activity undertaken was the summer school in July. The courses offered were of two types—one adapted to those generally interested or actively engaged in home making, the other designed to help teachers of schools in small villages where meager facilities only are available for teaching the subject. For three days immediately following the close of the summer school the Conference for Rural Community Leaders was held and a woman's section was a part of each morning's program.

Ten Extension Schools were held, each one lasting from Monday until Friday. The expressions of appreciation received at the close of each school, the regularity of attendance, and the increasing membership as each day passed were conclusive evidence of the value of the work.

Of a different nature are the "Community Schools," of which two have been held. Here the problems of the group were emphasized rather than those of the individual as in the regular extension schools. In each, two periods were devoted to the women's work in the community and in the home.

During the annual Farmers' Week in March, the woman's section registered 460 with an average attendance at the section meetings of 195. Prominent among the speakers were Dr. Benjamin Andrews, of Teachers College, who spoke on The Economic Phase of Household Management; Dr. Evangeline W. Young, of Boston, who talked on Sex Hygiene; Miss Bertha M. Shapleigh, of Teachers College, who demonstrated cookery. The New England Home Economics Association had charge of one afternoon's program.

The State Grange, the Home Economics Department of the Massachusetts Federation of Women's Clubs, and the New England Home Economics Association have coöperated, and this coming year a carefully prepared program is to be given so that true constructive work may be accomplished. Girls' Home Economics Clubs have been organized under the joint supervision of this department and that of Agricultural Education. It has not been possible to accept all invitations to speak before granges, clubs and alliances, but a number of such addresses have been given.

New Hampshire College. New Hampshire State College began the organization of a department of Home Economics in May, 1913. The work was placed under the direction of Miss Helen B. Thompson and classes were opened in September. A splendid equipment was installed during the summer. In response to the announcement of the course the enrollment of women increased to double the number for the preceding year. Sixty-three women have been registered, most of them taking work in the department and many of them entering the full course.

The course in Home Economics is one of three courses in the arts and science division and is so arranged as to be technical for students wishing a professional training, or elective for arts and science students who desire a more general course.

The women's dormitory has been filled to the limit of its capacity and plans are under way for an addition to the building for next year.

It is evident that New Hampshire is thoroughly interested in this phase of education. The high schools and academies are rapidly putting Home Economics into their courses; there are frequent calls from women's clubs, granges, and farmers' and teachers' institutes for lectures on the subject, and at the Annual Farmers' Week, held at the college, January 26–30, there was an enthusiastic attendance, at the woman's section, of both men and women from all parts of the state.

Illinois Woman's College. The department of Home Economics is growing very rapidly. In 1911 Miss Lucy H. Gillett became director and completely revised the work, putting it upon a thoroughly scientific basis. She established the four-year course leading to the degree of Bachelor of Science, and there is a steady increase in the number of students entering for this course.

Miss Florence H. Churton succeeded Miss Gillett in September last, as the latter resigned to spend the year in study at Columbia University. Miss Bettina Leicht, of the Albany Normal College, has charge of the work in household arts.

The Woman's College Guild of Jacksonville has recently given the money with which to purchase a large number of books for the Home Economics library. On March 8, the members of the guild with the entire college faculty visited the department, to see the regular classes in session and an exhibit of work done in sewing and handwork.

Johns Hopkins Summer School. Among the courses to be given at this university during the summer are the following:

Elementary Cookery, Miss Harris. The aim of this course is to give a working knowledge of the elementary principles of cookery.

Methods of Teaching Domestic Science, Miss Harris. In the class work the following topics are treated: educational value, the place in the curriculum, equipment for teaching courses of study, planning lessons, and methods of presenting work by demonstrations. Opportunity will be given for practical work in teaching a class in domestic science.

Household Chemistry, Professor Gilpin. This course is intended for those who have taken courses in elementary chemistry and domestic science. It will include a study of fuels, combustion, oxidation, air, water (its analysis and purification), food principles, preparation and testing of food, and preservatives.

The Parents' League. It will be good news to many a puzzled father and mother that there is a movement on foot to form societies whose aim shall be "to unite parents in an effort to promote the moral, mental and physical well-being of their children by establishing wholesome standards in matters affecting their education, amusements and home life."

The Parent's League of New York City was organized last December and was the outgrowth of a meeting of parents and teachers to consider "how to solve the theater problem and the late hours indulged in by young boys and girls."

"By means of the coöperation of parents the league hopes to make it easier for the individual parent to establish somewhat more rational and simple occupations and amusements for children during the hours when they are not in school, and during the holidays. Its purpose is not to reorganize the home, but to influence conditions outside the home."

To quote from the literature sent out by the Boston League of the same name "it is an effort to anticipate the need of reform; to counteract the tendency of the social impulse, which, like a dancing dervish, excited by its own motion, increases its velocity with every turn.

"As a matter of fact, many of us feel very diffident as to our ability to decide in each new instance for our children, the question of their relation to the ever-changing suggestions and opportunities of the day. Each of us is confronted almost daily with a new problem, inseparable from the growth of our particular child, and differing from all questions which have preceded it; and it seems to us well that we should make for ourselves an opportunity to discuss these things, and to come to some conclusions founded on our own combined best judgment, as to the ways of meeting the questions of the hour, and of placing the future of our children, mentally, morally, physically and socially, that is to say in all human relations, upon the best possible basis."

At a late meeting of the New York League the following recommendations were adopted:

"That boys and girls of school age refuse all invitations to parties, theaters, etc., during the school term, except occasionally, on Fridays and Saturdays, and that parties and theater going be limited during the holidays.

"That parents arrange simple and appropriate forms of recreation for the children; for instance, attendance at young people's concerts, visits to the country, museums and places of interest; and that they reserve time during the holidays to join their children during such recreations.

"That parents advocate reasonable hours for beginning and ending dances for young people, that they state them in all invitations, and that they carefully supervise the manner of dancing.

"That a theater committee send bulletins at regular intervals to all the active members of the league, suggesting the most suitable plays for young people. That parents in sending invitations to the theater state the name of the play.

"That parents confer frequently with the teachers of their children regarding questions affecting their education and general welfare, and that they coöperate with the teachers in upholding the rules and standards of the school.

"That articles bearing on vital questions relating to the up-bringing and education of children be circulated among the active members of the league, and that the members hold informal meetings for the discussion of these questions.

"That coöperation be sought of such organizations as the Junior League and the alumnae associations of the schools, in order that sons and daughters may work in sympathy with their parents toward a common end."

These leagues have started among wealthy people in coöperation with the private schools but their usefulness would seem to be apparent all along the line. Parents, no matter how independent, often find great difficulty in enforcing standards that do not prevail among their children's friends.

Relief Society Grocery. The change from the corner grocery to their own grocery, resulted, during ten weeks, in a net saving of 22.8 per cent of the amount ordinarily spent for food by the New York Relief Society. Besides this saving, the new method makes it possible for the dietitian to arrange a wholesome, varied, and nutritious diet for the needy families.

The visitor, after finding out the needs of a family, goes to the central office and by referring to the dietitian's guides gives an order for her particular family for a day's or a week's supplies. All orders are sent from the offices to the store and the goods delivered to some sections every day, to others, twice a week.

National Organization of Nurses. The annual convention of the National Organization of Nurses of the United States met in St. Louis, April 23–29. At this convention were assembled the three branches of the national organization—The American Nurses' Association, the National League of Nursing Education, and the National Organization for Public Health Nursing.

The Red Cross joined with the other associations in St. Louis in preparing an exhibit of charts, laboratory equipment, and materials representing teaching and hospital work, public health nursing and medical social service.

Methods of teaching, approved schools of nursing and their entrance requirements, standardization of nursing, public health nursing, private nursing, and other topics of interest in the nursing field were discussed.

International Congress on Home Education. The International Congress on Home Education was organized in 1905 under the patronage of the Belgian government. After three European Conferences, the fourth is announced to meet in Philadelphia, September 22–29, under the auspices of the International Commission. The members of this commission appointed by the United States Government are: Mrs. Charles Henrotin, Honorary President of the General Federation of Women's Clubs; Professor M. V. O'Shea, University of Wisconsin, and Professor Will S. Monroe, State Normal School, New Jersey.

The program of this congress will be in charge of the chairmen of sections, as follows: Child Study, Dr. G. Stanley Hall; Family Education, Mrs. Frederick Schoff, President National Congress of Mothers and Parent Teachers' Associations; Subjects Relating to the Child Before School Age, Miss Lucy Wheelock, Kindergarten Training School, Boston, Mass.; Subjects Relating to the Child During School Age; Subjects Relating to the Child and Youth After School Age, Dr. David B. Snedden; Subjects Relating to the Abnormal and the Physically Handicapped Child, Dr. Walter S. Cornell, Chief Medical Inspector, Board of Education, Philadelphia; Various Organizations Relating to the Welfare of Childhood and Youth, Children's Courts, Associations to Fight Tuberculosis, etc., Dr. Harlan Updegraff, University of Pennsylvania; Literature and Documentation; The Home and the School in Coöperation for the Education of the Child, Dr. P. P. Claxton, United States Commissioner of Education.

Prominent men and women who will participate in the program are: Miss Julia C. Lathrop, Judge Ben Lindsey, Dr. Graham Bell, Dr. Charles De Garmo, and others. Besides these educators from the United States there will be representatives from every country of North and South America and Europe.

This promises to be the greatest congress on the welfare of childhood and youth that has ever been held in any country.

Congress on Child Welfare. Men and women of international importance who are interested in child welfare were brought together by the Third International Congress on the Welfare of the Child. This Congress met in Washington, April 22–27, under the auspices of the National Congress of Mothers and Parent Teachers Associations.

Representatives from China, Japan, Bulgaria and other foreign countries as well as noted men and women from all parts of the United States took part in the discussions on vital subjects connected with child welfare. Some of these topics, which were divided into sub-topics, were: The Relation of the School, the Church, and the Home to Child Welfare; Education for Home Making: Opportunities for parents to Obtain Instruction in Child Nurture and Home Making; and The Nation's Protection of Home and Family.

The Florida Canning School. The organization of Canning Clubs is a definite part of the Home Economics work of the Florida State College for Women. A network of influence has been effected by the formation of clubs in twenty-six counties each with its county agent who reports directly to the department of Home Economics. Under their supervision there are 1600 girls, planting, canning and doing other things at home.

Once a year the agents meet at the college for a week's instruction in canning, marketing, etc. This year's canning school was held March 9–11 with a program that included reports from the county agents, canning demonstrations, and discussion and lectures on Agriculture in the Northern part of Florida, Tomato Culture in Florida, the Development of Canning Club Work in the Southern States, Standardization of Club Products, and Reports, Exhibits, and Methods of Organization.

The Alexandra Trust. The Alexandra Trust is an Institution in London founded by Sir Thomas Lipton who gave a sum of over £70,000. The management plan to cover their expenses but have a fund available so that should the markets at any time be against them they could still supply food at the usual prices; but there has been no occasion so far. The food served is of excellent quality and every care is taken in its preparation.

They have had a contract for years past to supply breakfasts and dinners to needy children provided by the London County Council. They supply a two course dinner to poor children belonging to the Hoxton Mission, at 1½d per head, daily. They use about 5 cwt. of haricots, 1½ cwt. of butter beans and 6 cwt. of peas a day, and bake 7000 big loaves of bread a week.

Their card of prices shows the following: tea, coffee, cocoa, per small mug, ½d; slice of bread and pure butter, ½d; roll and butter (pure), 1d; toasted tea cake, 1½d; half toasted tea cake, 1d; poached egg on toast, 2d; 2 poached eggs on toast, 3d; rashers of bacon, 1½d and 2d; rasher and 3 eggs, 4d; porridge and milk, 1d; salmon and sardines, 1d; cakes and pastries, ½d; kippers, each 1d, per pair, 1½d; haddocks, 1d, 1½d, and 2d.

Their vans delivering the food for London County Council service are many and go to all districts of London, as far as six or eight miles out. The food is packed in boxes specially constructed to retain the heat, so that hot food is served to the children.

Social Service Congress. The accredited delegates to the National Social Service Congress, held at Ottawa, March 3–5, numbered about eight hundred. Great interest was manifested, and the interest has spread throughout the Dominion.

His Royal Highness The Governor General, the Right Honorable R. L. Borden, Prime Minister, and the Right Honorable Sir Wilfred Laurier, ex-Prime Minister, addressed the congress. Four other members of the Government were on the program. Two distinguished American speakers of world-wide repute contributed very highly to the inspiration of this remarkable gathering—Professor Graham Taylor, of Chicago, and the Rev. Chas. Stelzle, of New York. Each gave three addresses, one by each speaker being given at a luncheon in the palatial hotel, the Chateau Laurier. The dining-room which seats four hundred and fifty guests could not accommodate all who wished to hear the addresses.

Canada is keeping pace, at least, with the rest of the world in the great social awakening, and the congress at Ottawa has given social service in all its aspects a new and much higher standing alike with the people and with the Parliament of Canada. This congress was held under the auspices of the Social Service Council of Canada which comprises eleven different religious and philanthropic bodies.

Art in the Home. Many cities are realizing that their libraries and museums ought to bear a more definite relation to the home. To this end they have arranged exhibits of textiles, tapestries, vases, etc. Referring to such an exhibit the *Outlook* for February 7, says:

"Many teachers have visited the exhibit, taking away valuable suggestions for class work. For instance, linoleum as an art fabric is practically unknown in this country. In this direction the exhibit suggests possibilities of bringing floors into harmony with walls and ceilings, not always attained with rugs, carpets, and wood; furthermore, the fabric is economical and hygienic. There is no reason why art in a home should be confined to one room, any more than that one day of the week should be set apart for being good. Every object and phase of life, through adaptability to the use for which it is intended, may be made harmonious, and so artistic. This movement of industrial art, rightly applied to daily routine, may do something towards making the living of life itself the greatest of all arts."

Mr. Dana, Director of the Newark Public Library has organized a circulating museum. It is his idea to loan articles to homes and thus develop a love of the beautiful. He also has free exhibits in which is shown the value of the usefulness of art objects. He believes that oil paintings do not have so close a relationship to the development of good taste and refinement among people as do the genius and skill that have gone into the perfecting of household objects.

Life Extension Institute. "The Life Extension Institute" has been organized by a group of active men who feel that unapplied theories are of little value. Ex-President Taft will be chairman of the Board of Trustees, and Colonel Gorgas will be Chief Consultant in Sanitation on the Hygienic Reference Board.

Of the work of the Institute Professor Fisher says: "The purpose of this Board is to help determine the truth on hygienic questions referred to it. The method to be used to prolong life is very simple and the same as applied to ordinary machinery—inspection and repair. After the human machine has been inspected the individual will be advised to see his family physician, who will furnish a full statement of the results of the examination.

THE BIENNIAL, GENERAL FEDERATION OF WOMEN'S CLUBS

Home Economics Day at the Biennial occurs on June 15 in connection with that of the closely allied department of Public Health. In the morning session the reports of both the Public Health and Home Economics chairmen will be given, and each department will present a speaker. Dr. Philander P. Claxton, the United States Commissioner of Education, will speak for the Home Economics Department on The Educational and Cultural Value of Home Economics.

In the afternoon of the same day the two departments hold separate conferences. The topics to be presented for discussion are as follows: The Greatest Need of the Home Today; Difficulties Encountered in Interesting Clubs in Home Economics; and the subject of Clean Food.

All three topics are for open discussion in which those who are not club members, but whose work is well known, have been invited to participate. We will have with us Dr. Carl L. Alsberg, Chief of the Bureau of Chemistry, and Dr. C. F. Langworthy, Chief of the Division of Nutrition, Washington, D. C.; Miss A. B. Wimple, State Bakery Inspector, Olympia, Washington; Dr. John H. Long, Medical College, Northwestern University, Chicago, Illinois; Dr. Herbert D. Pease, of the Lederle Laboratories, New York City; Dr. Benjamin R. Andrews of Teachers College, Columbia University, New York City; Mr. W. Scott Matthews, Food Commissioner of Illinois; Dr. Harry Barnard, Food Commissioner of Indiana; Mr. Harry Snyder, author of "Human Foods;" and others.

Some of those who will be present, and who have particular interest in the Home Economics world, are Mrs. Mary H. Abel, Editor of THE JOURNAL OF HOME ECONOMICS; Miss Isabel Bevier, Professor of Household Science, University of Illinois; Miss Abby L. Marlatt, Professor of Home Economics, University of Wisconsin; Dr. Amy L. Daniels, University of Missouri; Prof. Marion Talbot, University of Chicago; Mrs. H. M. Dunlap, Ex-President of the Household Science Department, Illinois Farmers' Institute; and others.

The discussion of clean food will be opened by Mrs. O. G. Ellis, Vice-Chairman of the Public Health Department. This work of food sanitation was under the direction of the Public Health Department until within the past six months. It was transferred to the Home Economics Department by action of the Board of the General Federation at the request of Mrs. Crockett last December. Its most able subchairman, Mrs. McKibben of Grant's Pass, Oregon, was continued in office with her committee and Mrs. McKibben will be present to tell of her work.

The discussion of The Need of Greater Uniformity in State Food Laws will be opened by Dr. Alsberg, and the subject of Clean Food by Miss Wimple.

On Wednesday afternoon, the seventeenth, there will be a meeting of the State Chairmen of Home Economics. Seven of this number and the chairman of the General Federation are trained Home Economics teachers, four more have had years of experience in many phases of this work, and two others both practical and club experience of many years. It is a strong, responsive and representative committee.

This committee urges the readers of the JOURNAL who are members of clubs or teachers of Home Economics, who can or will be in Chicago at this time, to join in the conferences and aid in the discussions. **Helen Louise Johnson**, Chairman.